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Student alcohol consumption:
An exploration of the social factors
involved in UK student and student-
athlete drinking behaviour

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PhD

2018

Student alcohol consumption:
An exploration of the social factors
involved in UK student and student-
athlete drinking behaviour

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MSc PgCert BSc (Hons)

A thesis submitted in partial fulfilment of
the requirements of University of
Northumbria at Newcastle for the degree
of Doctor of Philosophy

Faculty of Health and Life Sciences

October 2018

Abstract

Hazardous alcohol use is considered the most prevalent public health issue on university campuses in the UK. This pattern of alcohol use is associated with risks including interpersonal violence, sexual assault and death. Despite knowledge of the risks and attempts to intervene, the majority of UK students continue to drink at hazardous levels. This resistance to change suggests that for students, there are powerful incentives operating around this particular behaviour. However, there is limited knowledge of the positive consequences which may influence student alcohol use. This thesis aimed to explore the positive factors which might shape students' hazardous alcohol use, in particular, the role of social factors in student alcohol consumption.

A mixed methods approach was adopted, with three interconnected studies. In study one, a large cross-sectional study, it was established that positive relationships exist between alcohol consumption and the key social factors of social belonging and need for popularity. Students categorised as hazardous, harmful and dependent drinkers possessed significantly higher social belonging and need for popularity scores than low-risk drinkers. In study two, qualitative interviews with an information rich group (student-athletes) provided more information on these relationships and situated them within the context of student-athletes' social lives. Alcohol use was subject to cultural rules within sports teams, where social benefits were available for athletes who adhered to the drinking rules. Not all students wanted to drink at the culturally prescribed levels, but those who challenged the drinking rules by not drinking endured social costs. When making decisions about their alcohol use, student-athletes were aware of and weighed up the social costs and benefits. Despite the heaviest drinkers being seen as the most popular, there were also some hidden social costs to drinking heavily. Students secretly avoided the heaviest drinkers and saw them as a burden on a night out. In study three, a sociometric approach enabled further exploration of hidden social costs. With a more sensitive measure of popularity, it was found that the heaviest drinkers were afforded social status and prestige but were not necessarily liked. In contrast, student-athletes who drank at lower levels, were well liked and socially accepted.

Overall, this thesis has challenged traditional approaches to student alcohol consumption by exploring the potential incentives associated with hazardous alcohol use. Findings suggest that alcohol is central to the social lives of students, and they make strategic decisions about their alcohol use to avoid social costs and achieve social benefits. Of importance, this thesis uncovered a group of students who did not want to drink at culturally prescribed levels and that there are hidden social costs to drinking. Future research should devote attention to identifying students who are conflicted about drinking and therefore may be ripe for intervention. In addition, more research is needed into hidden social costs.

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Acknowledgements

First and foremost, I would like to thank my primary supervisor, Dr Sarah Partington, for her invaluable advice, guidance and support throughout this programme of research.

My profound thanks also go to Dr Elizabeth Partington and Dr Fran Longstaff, my second and third supervisor, for their valued input and guidance. With special thanks also to Professor Nick Heather for his advice and assistance throughout my PhD programme.

My sincerest thanks also go to the students and student-athletes who kindly agreed to give up their time to participate in my research.

Special thanks are also extended to my employers, NHS North of England Commissioning Support Unit, and the head of my department, Dr Shona Haining, as without her patience and flexibility over the last 10 months I would not have been able to support myself during the final year of my PhD.

To my fellow PhD students, Paula, Nicola and Adam, who offered words of wisdom, encouragement or a timely distraction when needed, thank you and may you all reach the end of your PhD journey with your sanity intact.

To my immediate family, my Mum and brother, David, thank you for your emotional support and understanding over the last four years.

To Stephen, my fiancé, thank you for your love, emotional support and patience throughout this journey. I know you have lived and breathed my research with me.

Finally, I wish to dedicate this PhD thesis to my Grandfather, Derek Heward (1934 - 2016) who died of prostate cancer in the second year of my PhD. As a child, he was my role model, a hardworking, intelligent and inquisitive man, but above all he always made sure I did my homework. Grandad, I dedicate this thesis to you – my most significant piece of homework yet!

Author's Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the Faculty of Health and Life Sciences Ethics Committee on 23rd of March 2015 (Chapter three), 9th of December 2015 (Chapter four) and 18th November 2016 (Chapter five).

I declare that the word count of this Thesis is 54,723 words (excluding references and appendices).

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Chapter 1 - Introduction

Harmful alcohol use is a leading cause of mortality, morbidity and disability across the world (Lim et al., 2012; World Health Organization, 2014). Alcohol consumption results in 3.3 million deaths each year, representing 5.9% of all deaths worldwide, which is greater than deaths from HIV/AIDS (2.8%) and tuberculosis (1.7%) (World Health Organization, 2014). The misuse of alcohol is a component cause in over 200 diseases and chronic conditions including liver cirrhosis, cancer, neuropsychiatric conditions, and cardiovascular and digestive diseases (Shield, Parry, & Rehm, 2014; World Health Organization, 2014).

Across the world alcohol consumption varies by country, where a general trend is observed that the greater economic wealth of a country, the more alcohol is consumed (World Health Organization, 2014). The highest levels of alcohol consumption are found in the developed world, more specifically in Europe and the Americas (World Health Organization, 2014). Within Europe, research has identified that people living in central European countries such as Poland, France, the Netherlands and the United Kingdom (UK) consume the most alcohol, whereas those living in Nordic and southern European countries such as Portugal drink the least (Nazareth et al., 2011; World Health Organization, 2012).

In the UK, alcohol consumption is considered a major social and public health issue (Social Research Institute, 2013). In 2015, 8,758 alcohol-related deaths were recorded in the UK, the majority of which were among males (65%) (Office for National Statistics, 2017). Harmful drinking poses a danger to both the individual and others in society through physical violence, drink driving incidents and alcohol related crime (Public Health England, 2016). Problematic drinking also has implications for healthcare services in the UK. In 2015, an estimated 1.1 million hospital admissions were attributable to an alcohol-related disease or injury, and 196,000 prescription items were dispensed to treat alcohol dependence (Health & Social Care Information Centre, 2016).

Whilst high risk drinking practices are prevalent across UK society (Ally, Lovatt, Meier, Brennan, & Holmes, 2016), the drinking habits of young people are a particular cause for concern and the focus of policy development in the UK (Herring, Bayley, & Hurcombe, 2014). Alcohol consumption is implicated in over a quarter of male deaths and a seventh of female deaths among 16-24 year olds in the UK (Social Research Institute, 2013). Young people are the most likely to drink heavily in a single sitting and 68% of those aged 16-24 drink above the recommended levels (Health & Social Care Information Centre, 2013). Whilst more recent evidence suggests that young people aged 18 to 24 years old are less likely to have consumed alcohol in the previous week than other age groups in the UK,

when they do drink, they are more likely to binge drink (Office for National Statistics, 2017) and to engage in pre-partying behaviour, where alcohol is consumed in a domestic setting before going out (Social Research Institute, 2015). Binge drinking is considered a serious public health issue which is associated with crime, violence and anti-social behaviour, and an increased risk of cardiovascular and liver disease (HM Government, 2012; Mathurin & Deltenre, 2009).

Within the subgroup of young people, those studying at university in the UK are at particular risk of hazardous alcohol consumption (Heather et al., 2011). Hazardous alcohol consumption is a pattern of alcohol use that increases the risk of harmful consequences for the individual and/or others, and represents a wider public health concern (Babor, Higgins-Biddle, Saunders, Monteiro, & Organization, 2001). UK students have been found to engage in patterns of alcohol use typified by excessive or high levels of alcohol consumption in a single drinking episode, commonly referred to as binge drinking (Norman, Conner, & Stride, 2012; Szmigin et al., 2008). Similarly, heavy episodic drinking, which is defined as the consumption of five or more alcoholic drinks on one occasion over the past two weeks, is prevalent among UK university students (El Ansari, Sebens, & Stock, 2013). Across seven UK universities, El Ansari et al. (2013) found that 76% of male students and 65% of female students surveyed had engaged in heavy episodic drinking behaviour within the last two weeks.

When compared to university students from other countries, students studying in the UK consume alcohol at levels which exceed those of their student counterparts in the US, France, Romania and South Africa (Dantzer, Wardle, Fuller, Pampalone, & Steptoe, 2006; Gill, 2002). Exploration of student drinking has led to the identification of specific sub-groups within the student population that are particularly at risk for hazardous drinking. These groups are as follows: i) students who live on campus, especially those with a larger number of room-mates and without family obligations (Lorant, Nicaise, Soto, & d'Hoore, 2013); ii) male students (Wicki, Kuntsche, & Gmel, 2010); iii) first year students (El Ansari et al., 2013); iv) medical and law students (Bogowicz et al., 2018), and finally v) students who participate in sport (Zhou & Heim, 2014). Although these 'at risk' student groups have been identified and researchers have suggested that targeted alcohol interventions should be developed (Bogowicz et al., 2018; El Ansari et al., 2013; Lorant et al., 2013), there is a need to understand the cultural and social contexts which make members of such groups particularly prone to risky patterns of alcohol consumption (Partington et al., 2013; Wicki et al., 2010; Zhou & Heim, 2014).

This excessive pattern of alcohol use among students has been associated with poor academic performance, contact with the police, unplanned sexual activity, sexual assault and physical injury (O'Neill, Martin, Birch, Oldam, & Newbury-Birch, 2015). Further documented risks and negative consequences of hazardous alcohol consumption among students include financial hardship, memory loss or loss of consciousness, interpersonal violence, suicide and death (Bewick et al., 2008; Griffin, Bengry-Howell, Hackley, Mistral, & Szmigin, 2009; Perkins, 2002b; White & Hingson, 2013). Although UK student alcohol consumption levels are documented to decline somewhat over the three years of the undergraduate degree (Bewick et al., 2008), harmful alcohol use during late adolescence is associated with continued problematic alcohol use and binge drinking in later life (McCarty et al., 2004; Pitkanen, Kokko, Lyyra, & Pulkkinen, 2008). Furthermore, heavy alcohol use in adolescence can have long-term consequences such as an increased risk of depression and poor quality or negative outcomes in romantic relationships in adulthood (Marmorstein, Iacono, & Malone, 2010; Wiersma & Fischer, 2014). Perhaps not surprisingly, hazardous alcohol consumption continues to be the most prevalent public health concern on university campuses in the UK and Ireland (Davoren, Demant, Shiely, & Perry, 2016).

Given the numerous health, social and academic risks associated with hazardous and harmful alcohol consumption, it seems strange and counterintuitive that this behaviour is so prevalent amongst university students. Of particular concern, is how entrenched and deep-rooted this behaviour appears to be within university culture. For example, Longstaff et al. (2014) identified that UK students in their sample who were drinking at levels endangering or harming their health were reluctant to change their drinking behaviour and failed to acknowledge that their alcohol consumption was problematic.

To compound the issue, it is clear that students do not lack knowledge of the risks associated with excessive alcohol consumption. For instance, in a study by Taylor and Nestel (2014), students commented that national awareness campaigns highlighting risks did not influence their behaviour because they were already aware of such risks. In relation to health intervention campaigns, young people have expressed that they find many alcohol campaigns to be patronising or preaching (de Visser, Wheeler, Abraham, & Smith, 2013). Additionally, there is a perception among young people that they are indestructible (Rudolfsdottir & Morgan, 2009). According to researchers, serious health warnings have so far failed to "dent the armour of youth and can appear killjoy" (Rudolfsdottir & Morgan, 2009, p. 503). Finally, young people also assume that drinking heavily is a natural and acceptable part of growing up and this message is often reinforced by peers, parents, teachers and in the media (Herring, Bayley, & Hurcombe, 2012).

Consequently, it is perhaps not surprising that population-level alcohol interventions have been unsuccessful in higher education (Martineau, Tyner, Lorenc, Petticrew, & Lock, 2013). Individual-level interventions based on challenging alcohol expectancies (Scott-Sheldon, Terry, Carey, Garey, & Carey, 2012), assessing individual risk (Oswalt, Shutt, English, & Little, 2007) and teaching mindfulness (Mermelstein & Garske, 2014) have shown some success in reducing the quantity of alcohol consumed and the frequency of heavy or binge drinking episodes among US college students. However, methodological problems including a lack of appropriate control groups (Oswalt et al., 2007), poor results at six month follow-up (Scott-Sheldon et al., 2012) or a lack of adequate follow-up period (Mermelstein & Garske, 2014) cast doubt on the validity of these findings.

There is also a tendency to use mandated students, students who have to complete in these interventions because they have violated university alcohol rules, in intervention studies (Cronce & Larimer, 2011; Oswalt et al., 2007). Previous research has shown that for mandated students the incident and reprimand are more important in prompting behaviour change than the intervention (Cronce & Larimer, 2011; White, Mun, & Morgan, 2008). This would appear to suggest that students are unlikely to change their alcohol behaviour until they experience a significant negative event or consequence.

Alternatively, researchers have suggested that social factors may have a stronger influence on the drinking behaviour of young people and that alcohol interventions should be shaped accordingly (Davies, Law, Hennessey, & Winstock, 2017; de Visser et al., 2013; Kingsbury, Gibbons, & Gerrard, 2015). For example, students themselves have emphasised that prior interventions have failed to address their social concerns linked to alcohol and have reported that they would be more willing to change their attitudes towards drinking for social reasons than health ones (Penny & Armstrong-Hallam, 2010).

One social factor which has received significant research attention in recent years is the social norms approach and the development of the personalised normative feedback intervention (Borsari & Carey, 2001; Perkins, 2002a). According to the social norms approach, students misperceive what is considered normal or acceptable regarding drinking attitudes and behaviour within their social group, overestimating the amount of alcohol other students consume and the extent to which their peers approve of drinking behaviour (Borsari & Carey, 2001; McAlaney et al., 2015; Perkins, 2002a). These misperceptions are said to influence personal alcohol use, resulting in high levels of alcohol consumption (Borsari & Carey, 2001; Dams-O'Connor, Martin, & Martens, 2007; McAlaney et al., 2015; Neighbors et al., 2010; Perkins, 2002a). To intervene in alcohol behaviour, personalised feedback is given to the individual student, which communicates the actual

drinking norm in order to dispel misperceptions about the quantity of alcohol consumed by the majority of other students, and their approval of alcohol use (McAlaney et al., 2015; Perkins, 2002a; Robinson, Jones, Christiansen, & Field, 2014).

Personalised normative feedback interventions have had some success in reducing US college students' alcohol consumption (Alfonso, Hall, & Dunn, 2013; Carey, Scott-Sheldon, Carey, & DeMartini, 2007; Crounse & Larimer, 2011). However, the success observed with US college students has not been replicated in the UK. For example, UK students who received a personalised normative feedback intervention did not have lower scores on the Alcohol Use Disorders Identification Test (AUDIT, a measure of alcohol consumption & alcohol related risk) (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) or consume less alcohol than controls 6 or 12 months later (Moreira, Oskrochi, & Foxcroft, 2012). Additionally, social norm misperceptions were found not to predict individual consumption levels among UK students and norms messages delivered as part of an online intervention were not seen as credible nor did they influence UK students' intentions to drink responsibly (John & Alwyn, 2014; Robinson et al., 2014). Finally, Foxcroft, Moreira, Almeida Santimano, and Smith (2015, p. 2) concluded that there is "no substantive meaningful benefit" associated with using social norms interventions to prevent the misuse of alcohol by university students and that the effect sizes reported in such studies are too small to be of relevance for policy or practice. Therefore, there is a need for further research to explore other social factors which may explain UK university students' alcohol use and could shape alternative alcohol interventions.

One possible explanation for the limited effectiveness of alcohol interventions to date is that researchers have failed to understand the 'allure' of alcohol for students. Previous research has been criticised for focusing on the negative consequences of alcohol consumption and failing to consider what strong and powerful incentives reinforce student drinking behaviour (Lee, Maggs, Neighbors, & Patrick, 2011; Molnar, Busseri, Perrier, & Sadava, 2009; Park, 2004). The persistent nature of student drinking behaviour in the face of such risks and current intervention strategies suggests that there are powerful incentives which reinforce and maintain students' alcohol behaviour. It is these incentives and benefits which current intervention campaigns have failed to either acknowledge or effectively challenge.

In acknowledgement of this knowledge gap, researchers have started to incorporate the perspective of students in alcohol research, by asking them to describe and explain their experiences in relation to their alcohol behaviour. It is this body of research which has uncovered the range of positive factors, benefits and incentives which students associate

with drinking alcohol. Students have reported positive attitudes towards their drinking behaviour, positive beliefs about the expected effects of alcohol consumption and positive reasons to engage in alcohol use (Collins et al., 2014; LaBrie, Hummer, & Pedersen, 2007; Norman et al., 2012; Park, 2004; Wicki et al., 2010).

Critically, when questioned about the positive consequences of alcohol consumption, students predominantly highlight the positive social factors they associate with drinking alcohol. For example, students describe that alcohol has a positive impact on their social lives, enhancing their ability to make friends and interact with peers (Hallett, McManus, Maycock, Smith, & Howat, 2014; Park, 2004; Taylor & Nestel, 2014). Conversely, students also show an awareness of the negative impact that abstaining from alcohol can have on one's social life. For example, students have reported that not drinking had a negative impact on their ability to enjoy nights out, meet new people and become involved in social activities at university (Hallett et al., 2014; Hogan & O'Loughlin, 2013; National Union of Students, 2016). Therefore, social factors appear important to students when making decisions about their alcohol consumption and warrant further exploration.

To summarise, UK university students are engaging in hazardous and excessive levels of alcohol consumption, and existing alcohol interventions targeting student drinkers in the UK have been largely unsuccessful or only resulted in short-term behaviour change (Henson, Pearson, & Carey, 2015; Moreira et al., 2012). The limited impact of existing interventions suggests that currently student drinking behaviour is not fully understood. More specifically, there is a gap in our knowledge regarding the drinking experiences and perspectives of university students, in particular their decision making about alcohol and the role of positive social factors. There is a need for researchers to further explore why students continue to drink excessively despite knowledge of the associated risks and adverse consequences (Capron & Schmidt, 2012; Lee et al., 2011; White & Ray, 2014).

The persistent nature of student drinking behaviour in the face of such risks suggests that there are powerful incentives that reinforce and maintain students' alcohol behaviour. It is these incentives and benefits that current intervention campaigns have failed to either acknowledge or effectively challenge. One potential area for further exploration that could provide an understanding of and explanation for student alcohol behaviour is the influence of social factors on alcohol consumption. As discussed earlier, the social norms approach and associated personalised normative feedback interventions have produced mixed results. However, social norms are just one type of social factor. The focus on social considerations has shown more promise than alcohol interventions focused on the negative

health effects or risks of drinking heavily. Therefore, there is a need to explore other social factors that may influence the alcohol use of UK students.

The current thesis aims therefore to address these concerns by exploring the role of social factors in university student drinking. At present, it is unclear which social factors are influential, how and why social factors motivate students to consume alcohol above recommended limits and how such social factors form part of a student's social life at university.

Chapter 2 - Review of Literature

In an effort to understand and explain the persistent nature of hazardous drinking behaviour among UK university students, a review of existing alcohol literature was undertaken focusing specifically on social factors. The previous literature exploring the drinking behaviour of university students is vast, however this can be broken down into thematic bodies of literature relating to; i) alcohol expectancies, ii) drinking motives and reasons, and iii) alcohol consequences. Thus, this literature review looked to explore the role of social factors as alcohol expectancies, drinking motives and alcohol consequences and to identify any specific social factors which may be pertinent in the explanation of student drinking behaviour.

Along with the antecedents of alcohol use, alcohol expectancies and drinking motives are components of the motivational model (Cox & Klinger, 1988). The motivational model was therefore chosen as a framework to provide a coherent structure to this literature review. Initially, the motivational model will be outlined in further detail, followed by three sections on each of the inter-related categories within the motivational model; antecedents, expected effects of drinking and drinking motives. The fifth section, a proposed addition to the motivational model, summarises the role of social factors within the alcohol consequences literature. The final two sections within this chapter offer a conclusion and set out the current research in this thesis.

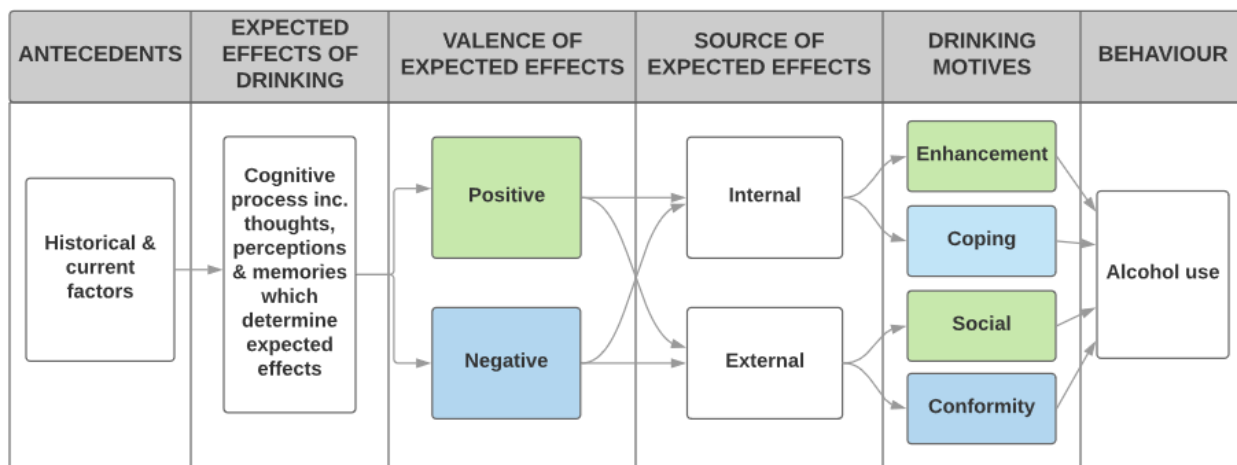
2.1 The Motivational Model: A conceptual framework for studying the role of social factors in university students' drinking

Alcohol consumption and other addictive behaviours have been studied from many different theoretical perspectives (Thombs & Osborn, 2013; West & Brown, 2013). The motivational perspective seeks to provide a coherent explanation for why people choose to drink alcohol or use other substances (Cooper, Kuntsche, Levitt, Barber, & Wolf, 2016; Cox & Klinger, 2004; Skinner & Aubin, 2010). This is in accordance with the central aim of this thesis, namely to understand why university students consume harmful levels of alcohol despite knowledge of the risks and experience of negative consequences.

The motivational model was originally proposed by Cox and Klinger (1988), who presented a motivational formulation of alcohol use and developed an associated motivational counselling technique for those with alcoholic behaviour. The model has since become the “most widely known and influential motivational model of alcohol use” (Cooper et al., 2016,

p. 376), and has been developed further by Cooper (1994) and Kuntsche, Knibbe, Gmel, and Engels (2005), from which Figure 1 is taken.

Figure 1. The Motivational Model (Cox & Klinger, 1988; Kuntsche et al., 2005)



The motivational model explores alcohol behaviour through a contemporary theory of motivation and emotion, whereby the decision to use alcohol is based on one's life context and circumstances (Cooper et al., 2016; Cox & Klinger, 1988). The model is predicated on the notion of incentive motivation and on the expected affective changes that might occur when alcohol is consumed. Incentive motivation is the commitment to pursue an incentive and reflects the vigour and intensity of one's behaviour towards a chosen incentive (Cox & Klinger, 1988; Skinner & Aubin, 2010). An individual who is committed to pursuing an incentive enters a distinctive motivational state until the goal is achieved or abandoned (Cox & Klinger, 1988). Cox and Klinger (1988) propose that people's lives are filled with opportunities to pursue and derive enjoyment from incentives.

Where alcohol is concerned, a person's motivation to engage in alcohol use is linked to the incentives they associate with using alcohol compared with the incentives available in other areas of their lives (Cooper et al., 2016; Cox & Klinger, 2004; Skinner & Aubin, 2010). An individual is likely to decide to use alcohol when the positive affective changes expected from drinking outweigh those expected by not drinking (Cox & Klinger, 1988; Kuntsche et al., 2005; Skinner & Aubin, 2010). The expected positive affective changes are related to the direct chemical effects (e.g. tension reduction) or indirect effects of alcohol (e.g. peer acceptance) (Kuntsche et al., 2005).

Central to the motivational model are some key assumptions (Cooper et al., 2016). Firstly, the model suggests that an individual will drink alcohol to alter their emotional state, achieve

valued outcomes and meet specific needs (Cooper, 1994; Cooper et al., 2016; Skinner & Aubin, 2010). Secondly, the individual will decide whether or not they will consume alcohol based upon both an emotional and rational process. The individual may not necessarily be aware of having made a decision or the factors influencing their decision, as some alcohol decisions are automatized or unconscious (Cox & Klinger, 1988; Kuntsche et al., 2005). Finally, the model stipulates that individuals hold beliefs about the expected effects of alcohol use and it is these beliefs or expectancies which shape drinking motives (Cooper et al., 2016).

As can be seen in Figure 1, the motivational model groups the variables which are thought to have an impact on one's motivation to drink into three inter-related categories; antecedents, expected effects of alcohol use and drinking motives. Within the model, there are a range of factors which are considered antecedents to an individual's decision to drink alcohol. These factors include; biochemical reactivity to alcohol, personality characteristics, the sociocultural environment, current situational factors and the positive and negative incentives available at that time (Cox & Klinger, 1988).

The aforementioned historical and current factors are thought to inform and shape an individual's expectations of alcohol use (Cooper et al., 2016; Cox & Klinger, 1988; Kuntsche et al., 2005). Individuals have a set of beliefs about the effects that drinking alcohol will have on their behaviour, mood and emotions (Cooper, Frone, Russell, & Mudar, 1995; Cox & Klinger, 2004). These beliefs are known as alcohol expectancies. Alcohol expectancies are developed through direct or indirect experience with alcohol and they influence the cognitive process governing current and future alcohol consumption (Jones, Corbin, & Fromme, 2001). Alcohol expectancies reflect an individual's thoughts, perceptions and memories, and can be positive or negative, with the individual anticipating beneficial or detrimental effects of drinking (Jones et al., 2001; Kuntsche et al., 2005). The anticipated effects of alcohol use can arise from internal or external sources such as managing one's internal emotional state or the social rewards available in the external environment.

It is along these two dimensions, the valence and source of the expected effects of drinking, that Cox and Klinger (1988) suggested drinking motives are formed. For example, an individual may be motivated to drink alcohol to secure a positive outcome or avoid a negative outcome, and internal and external rewards may be available. In 1994, Cooper developed a four-factor model of drinking motives based on the underlying dimensions proposed in the original motivational model by Cox and Klinger (1988). Motives are defined as broad or general categories of conscious or unconscious reasons for behaviour (Kuntsche et al., 2005). Cooper (1994) identified four types of drinking motives; social,

coping, enhancement and conformity. The four different motives reflect the four different combinations of the valence (positive or negative) and source (internal or external) dimensions of the expected effects of drinking. For example, social motives are concerned with positive reinforcement from external sources, whereas coping motives aim to reduce or regulate negative internal emotions (Cooper, 1994). Enhancement motives look to achieve positive mood or well-being and conformity motives seek to avoid rejection or social costs (Cooper, 1994).

Whilst drinking alcohol to achieve an altered emotional state, attain valued outcomes and meet specific needs are all acknowledged as motives for alcohol consumption, there is a general lack of information in Cox and Klinger's model (1988) about what happens after an individual chooses to engage in alcohol use (i.e. whether such valued outcomes occur or needs are met). In the updated descriptions of the model, Cooper (1994) and Kuntsche et al. (2005) acknowledge that alcohol-related problems are a likely consequence of alcohol use. Critically, Cooper (1994) identified that each of the four drinking motives were associated with a unique pattern of alcohol consumption and alcohol-related outcomes. For instance, social motives were positively associated with alcohol use but not alcohol-related problems and drinking in social celebratory settings (i.e. parties), whereas coping motives were positively associated with drinking alone and experiencing alcohol problems (Cooper, 1994).

Beyond the work of Cooper (1994), research has suggested that individuals experience a range of consequences when they drink alcohol (Lee et al., 2011; Park, Kim, & Sori, 2013; Park, 2004; Perkins, 2002b; White & Ray, 2014). Drinking consequences are events which have occurred as result of using alcohol (Capron & Schmidt, 2012). These outcomes or events can be perceived favourably, a positive drinking consequence, or unfavourably, a negative drinking consequence, by the individual (Capron & Schmidt, 2012). The nature of the consequences experienced during or after a drinking episode, have been shown to influence an individual's future alcohol use. For example, positive drinking consequences are thought to reinforce alcohol use (Barnett et al., 2014; Mallett et al., 2013; Park, 2004) and have been associated with sustained patterns of heavy drinking (Capron & Schmidt, 2012; Park et al., 2013).

More recently, research has looked to identify the possible relationship between motives and consequences. Each of the four drinking motives are associated with different alcohol consequences (Merrill & Read, 2010; Merrill, Wardell, & Read, 2014). For example, coping motives are related to academic or occupational problems, engagement in additional risky behaviours and with poor self-care. Whereas, enhancement motives were associated with

experiencing blackouts. Social motives were not associated with alcohol related problems. However, the relationships between motives and consequences have to yet to be formally reflected in the motivational model.

On the whole, the motivational model provides a useful framework for exploring the potential social factors associated with student alcohol consumption. The model was conceptualised to provide an answer to why individuals choose to drink alcohol. In particular, the concept of incentive motivation and alcohol use being a strategic behaviour in order to meet specific needs, is consistent and in keeping with the suggestion that there may be powerful incentives that reinforce students' alcohol consumption. However, there is a need to acknowledge recent evidence which suggests that individuals encounter a broad range of consequences when drinking alcohol, including positive consequences which may motivate continued alcohol use (Barnett et al., 2014; Capron & Schmidt, 2012; Mallett et al., 2013; Park et al., 2013; Park, 2004). Therefore, in addition to the categories covered by the motivational model, this thesis will cover the literature surrounding the consequences of alcohol consumption.

2.2 Antecedents

According to the motivational model, a complex combination of both current and historical factors are considered antecedents to an individual's decision to consume alcohol (Cooper et al., 2016; Cox & Klinger, 1988). As described when introducing the motivational model in the previous section, these factors include biochemical reactivity to alcohol, personality characteristics, the sociocultural environment, current situational factors and the incentives available at the time (Cox & Klinger, 1988). Whilst each of these factors are likely to be important in explaining alcohol behaviour in general, for the purposes of this thesis there is a need to consider the antecedents which are likely to be unique to university students and may explain their alcohol behaviour. It is therefore important to gain an understanding of the unique sociocultural environmental context that characterises university today and the social situations university students find themselves in. In addition, there is a need to be aware that time spent at university also coincides with a key life stage or milestone.

For most students, starting university is a significant life transition (Borsari, Murphy, & Barnett, 2007; Griffin et al., 2009; LaBrie, Ehret, Hummer, & Prenovost, 2012). The experience of becoming a university student is both exciting and daunting (Atwell, Abraham, & Duka, 2011). The process of adapting to the university environment involves academic, social and lifestyle changes, including becoming accustomed to new educational demands, living away from home and making new friends (Griffin et al., 2009;

Hussey & Smith, 2010; Maunder, Cunliffe, Galvin, Mjali, & Rogers, 2012). Some students acclimatise quickly, whilst others find the adjustment difficult (LaBrie et al., 2012).

For the majority of students, attending university coincides with a transitional period in a young person's life known as emerging adulthood (Arnett, 2005). Emerging adulthood is characterised by identity exploration, self-focus and increased independence (Arnett, 2000, 2005). During this transitional period, there is a need for emerging adults to develop new social networks and establish more mature, intimate relationships, as they look beyond existing family and friends (Arnett, 2005; White & Jackson, 2004). During emerging adulthood, young people tend to experiment with risky behaviours, including increased alcohol use (Arnett, 2000). This period of experimentation and increased engagement with risk is thought to be due to diminishing social control from parents, the opportunity to make independent decisions free from significant obligations and the increasing importance of friends within one's social network (Arnett, 2005; Merrill & Carey, 2016). Friends have the most influence on behaviour during this period and they have been found to encourage rather than discourage substance use within their friendship group (Arnett, 2005; Borsari et al., 2007; Merrill & Carey, 2016).

In addition to the internal transition taking place as one 'comes of age', the external environment has also changed. For most new students the social culture at university is different to their pre-university social life. Social events and gatherings form a large component of university social culture (Halim, Hasking, & Allen, 2012). Alcohol is present at most social gatherings on European university campuses and alcohol-based social events start during freshers' or introductory weeks for first year students in the UK (Bewick et al., 2008; Wicki et al., 2010). From the very first weeks of their university career students must make choices regarding their alcohol behaviours during social activities.

After the initial period of heavy drinking immediately after arriving at university, first year students' drinking practices are thought to be influenced by external events throughout the semester. Examples of key external events which influence alcohol consumption include holidays, birthday celebrations, athletic events and academic commitments such as completion of exams (Borsari et al., 2007; Mallett et al., 2013; Merrill & Carey, 2016).

UK students have reported that prior to attending university, they welcomed the freedom to choose their social activities and how much alcohol to drink in this new environment (Taylor & Nestel, 2014). However, as a research study commissioned by the National Union of Students (2016) demonstrates, students' perceptions around the notion of 'choice' in relation to alcohol consumption changes once in the university environment. According to

the report, once at university, 85% of the young people surveyed believed that drinking and getting drunk was an integral part of university culture (National Union of Students, 2016).

Drinking with peers is considered by students to be a normal part of their social life whilst at university (Taylor & Nestel, 2014; Wicki et al., 2010). Students from the UK and Ireland have reported that their social life at university revolves around drinking and that alcohol consumption is intrinsically linked to their concept of socialising, acting as “common ground for them and their immediate social network” (Hogan & O’Loughlin, 2013, p. 376; Piacentini & Banister, 2006). Whereas, drinking alone was perceived by young adults, aged 18 to 25 years old, living in Glasgow, to be unhealthy and inconsistent with the intention of getting drunk (Seaman & Ikegwonu, 2011). Students are aware that alcohol is not only available and that alcohol consumption is accepted but also that alcohol plays a “conspicuous” role in their social interactions (LaBrie et al., 2012, p. 379; White & Jackson, 2004).

It appears, therefore, that whilst at university, students encounter a range of sociocultural, environmental and situational influences, which form a unique set of antecedents that make alcohol consumption more likely. At the same time, university students are also undergoing a life transition characterised by an increased need to develop a new social network, and the growing importance and influence of peers. As a result of exposure to these antecedents, it is likely that students believe the expected effects of alcohol use will be positive and socially focused. In particular, students may perceive that alcohol consumption is a way to create and establish a new social network of peers and that alcohol consumption creates a common ground for forging successful new relationships. There is a need moving forward with this literature review to examine social alcohol expectancies and the potential social incentives students believe are on offer in more detail.

2.3 Expected effects of drinking

In accordance with the motivational model (Cox & Klinger, 1988), individuals hold a set of beliefs about the effects that drinking alcohol will have on their behaviour, mood and emotions. The individual is likely to anticipate and weigh up both the positive and negative effects of alcohol consumption. Positive alcohol expectancies include the perception that alcohol facilitates social bonding, increases sexual attractiveness, improves mood and enhances social status (Hallett et al., 2014; Zullig, Young, & Hussain, 2010). Negative alcohol expectancies focus on the anticipation of negative effects of alcohol such as aggression, depression and cognitive and motor impairment (Lewis & O’Neill, 2000; Pilatti, Cupani, & Pautassi, 2015). Positive alcohol expectancies are thought to motivate alcohol

consumption whereas negative alcohol expectancies are thought to restrain or inhibit alcohol use (Jones et al., 2001).

Previous research has established that positive and negative alcohol expectancies are associated with specific patterns of alcohol consumption among university students. For example, undergraduate Psychology students from the US, who were classified as problem drinkers using the CAGE (a screening instrument used to detect alcohol abuse and dependence), held more positive alcohol expectancies than non-problem drinkers (Lewis & O'Neill, 2000). Problem drinkers expected feelings of relaxation, reduced tension and improvements in their cognitive and motor abilities, and social behaviour when drinking alcohol (Lewis & O'Neill, 2000). Non-problem drinkers had higher levels of self-esteem and lower levels of social anxiety, less fear of negative evaluation and less social avoidance and distress than problem drinkers (Lewis & O'Neill, 2000). When reviewing alcohol research studies involving European students, Wicki et al. (2010) also identified that students who drank higher volumes of alcohol possessed more positive expectancies or attitudes towards alcohol consumption and fewer negative expectancies. The association was evident among female psychology students in Argentina, with students who engaged in heavy episodic drinking having higher scores for social facilitation, and lower scores for risk and aggression expectancies than moderate drinkers (Pilatti et al., 2015). Thus, from previous research it appears that across a variety of student groups, problematic or high levels of alcohol consumption are associated with positive outcomes expectancies.

Of the many positive alcohol expectancies, students are thought to have a particular set of beliefs related to the impact alcohol will have on their social life and their social interactions with peers. For example, students anticipate that drinking alcohol will facilitate their social interactions, enhance their social status and foster social bonding between peers (Hallett et al., 2014; Pilatti et al., 2015; Zullig et al., 2010). In addition, students believe that consuming alcohol will enable them to make friends, socialise more easily, and have a better time with friends (Park, 2004).

Previous research has shown that having such positive social expectancies is related to and is a significant predictor of alcohol use among students. For example, Labrie, Lamb, and Pedersen (2008) identified that first year male college students who had high social expectancies scores showed significantly increased binge drinking behaviour from prior to college to the first month of college. Zullig et al. (2010) also identified among US college students that the belief that alcohol facilitates social bonding and enhances sexual attractiveness accounted for a significant amount of the variation in problem drinking, with social bonding the more important of the two factors. Similarly, a more recent study by

McBride, Barrett, Moore, and Schonfeld (2014) found that positive expectancies related to sociability and sexuality were the strongest predictors of binge drinking in a sample of US college students.

However, an important limitation of the alcohol expectancies literature is that examining the beliefs about the anticipated effects of alcohol is only reflective of a cognitive process and does not provide information on whether students experience the anticipated effects. More recently, research has moved towards addressing this limitation by exploring the relationships between alcohol expectancies and actual outcomes which result from alcohol use. Dunne and Katz (2015) found a similar significant association between US college students' expectancies for sociability and alcohol consumption to the above studies (e.g. McBride et al., 2014; Zullig et al., 2010), however they also identified that expectancies for sociability were positively associated with regrettable social behaviours such as 'drunk dialling or texting', acting out of character and saying something embarrassing. The quantity of alcohol consumed was found to mediate this association, with those students who believed that alcohol facilitated their social interactions drinking more heavily and engaging more frequently in regrettable social behaviours (Dunne & Katz, 2015). Despite the informative results reported by Dunne & Katz (2015), a gap in the existing literature remains and further research is needed to determine whether the expected social effects of alcohol use are a reality.

Unfortunately, the research surrounding alcohol expectancies has developed in a disjointed manner, where different researchers have emphasised positive, negative or both types of expectancies (Monk & Heim, 2013). The relative importance of positive, negative or both types of expectancies needs to be further clarified and there is also a need for research to explore the context in which these expectancies are formed (Monk & Heim, 2013). This may include whether specific cultures or social groups promote ideas about the effects of alcohol use.

2.4 Drinking motives and reasons

The third category within the motivational model is drinking motives. Drinking motives are influenced by the preceding category within the model, where the nature of an individual's beliefs about the expected effects of alcohol will shape their motivation to consume alcohol (Cooper et al., 2016). In particular, the source (i.e. internal/external) and valence (i.e. positive/negative) of an individual's alcohol expectancies are associated with specific types of drinking motives. Based upon the original motivational model by (Cox & Klinger, 1988), Cooper (1994) proposed four types of drinking motives; coping, enhancement, conformity

and social. Cooper's four factor model has largely been accepted and the associated terminology continues to be used in alcohol research. It has informed a measure of drinking motives, the Drinking Motives Questionnaire (DMQ) (Cooper, 1994). However, some researchers have looked beyond Cooper's model. For example, Read, Wood, Kahler, Maddock, and Palfai (2003) aimed to replicate and extend the work of Cooper, but instead observed areas of divergence between models, including no associations between coping motives and alcohol use or alcohol problems. However, Read et al. (2003) emphasised the importance of social motives associated with alcohol use in the college population, with social influence measures offering strong direct and indirect associations with student drinking behaviour. Despite some criticisms of Cooper's model and the inconsistencies between the models discussed here, social motives remain an integral part of the explanation for student alcohol use.

Outside of the UK, Grant, Brown, and Moreno (2013), Van Damme et al. (2013) and Wicki et al. (2010) all found significant positive relationships between social motives and the alcohol consumption of university students. In their study of US college students, Grant et al. (2013) found that social drinking motives were significantly associated with drinking behaviours, including quantity and frequency of past month drinking. Among European university students, Wicki et al. (2010) found that the most frequently cited motives for consuming alcohol were social and enhancement motives. These students were concerned with pleasure and having a good time, with little indication of conformity or stress as motives for drinking alcohol (Wicki et al., 2010). Among Belgian university students, Van Damme et al. (2013) documented a positive relationship between social motives and problematic drinking. Social motives were the most frequently cited motives for alcohol consumption, above enhancement, coping and conformity motives, by the students in this sample (Van Damme et al., 2013). The role of social motives has also been highlighted within UK studies. Atwell et al. (2011) identified that in a sample of UK undergraduate students, the students who were most at risk of alcohol dependence were those who reported drinking for social motives. Among undergraduate psychology students in the UK, Norman et al. (2012) found that drinking to be sociable predicted intention to engage in binge drinking behaviour.

One of the challenges when reviewing previous literature exploring drinking motives is the examination of social motives as a broad or general category, which leaves unanswered questions regarding the range of different social motives and whether specific social motives may be more salient for university students than others. For instance, within the DMQ the social motives dimension accounts for individuals engaging in alcohol use to have more fun, to celebrate with friends and to be sociable, whereas research describing the

fundamental social motives includes affiliation, status seeking or acquiring a desirable romantic partner within this broad category (Griskevicius & Kenrick, 2013; Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010). The latter individual social motives have not been considered when seeking an explanation for student drinking behaviour.

Alternatively, research exploring the reasons why students choose to drink alcohol captures a more detailed insight into their alcohol behaviour. In contrast to drinking motives, drinking reasons “imply a rational process based on practical facts” (Kuntsche et al., 2005) which can be used to justify, defend and explain behaviour (Norman et al., 2012). Previous research has documented that university students drink alcohol for a wide variety of reasons including; to have fun, celebrate, facilitate or maintain social interactions, and as a means of stress relief or an escape from reality (Dodd, Glassman, Arthur, Webb, & Miller, 2010; Guise & Gill, 2007; Norman et al., 2012). Conversely, students have reported the following reasons for not consuming alcohol; expense, religious beliefs, dislike of the taste of alcohol and interference with other commitments (Collins et al., 2014; Herring et al., 2012; O’Neill et al., 2015).

Of the many reasons for alcohol consumption, social reasons are the most frequently cited and endorsed by university students. Among two samples of US student drinkers from psychology classes and those who had violated campus alcohol policy, social camaraderie was the most endorsed reason for drinking alcohol and was more strongly associated with alcohol consumption than enhancement or coping motives (LaBrie et al., 2007). Furthermore, US students undertaking a decisional balance exercise exploring the perceived advantages and disadvantages of drinking alcohol cited social reasons as the ‘top’ reason to drink alcohol (Collins et al., 2014). The students reported that drinking was an opportunity to meet new people, as well as devote time to and bond with existing friends (Collins et al., 2014). Drinking for fun and enjoyment, and psychological reasons (i.e. coping, confidence and courage) were the second and third most common reasons for drinking among students in this sample (Collins et al., 2014). Crucially, Collins et al. (2014) conclude that the prevalence of social reasons within their sample, suggests that such positively reinforcing aspects of drinking are salient and important to students.

Qualitative research studies offer further detail on students’ reasons for drinking alcohol. Across the qualitative studies exploring drinking reasons, a common pattern has emerged that students drink alcohol to manage their social status and the perceptions of their peers. For example, young people in the UK, aged 13-25 years old, cited multiple reasons for drinking, with a specific emphasis on socialisation and reasons relating to image and reputation (de Visser et al., 2013). There was a desire among participants to avoid the

stigmatisation of not drinking and to be seen as 'cool' rather than 'unusual or boring'. Of note, participants in this study also expressed concerns that excessive alcohol use could have a negative impact on their image and reputation, fearful that their peers would criticise or pass negative judgements (de Visser et al., 2013). Even Irish postgraduate students, later into their university careers, have described a strong aversion to not drinking because they feared social exclusion, remarking "if you're not drinking...it's like you don't exist" (Hogan & O'Loughlin, 2013, p. 376). Critically, students who consume alcohol for social reasons are the most likely to observe those around them, and to adopt their behaviour and beliefs with the hope of enhancing their experience with the group (Halim et al., 2012).

Within the literature exploring drinking motives and reasons there appear to be different layers of existing research, with the majority of research studies focusing on broad categories of motives or capturing the many reasons students may have for drinking alcohol. As Kuntsche et al. (2005) highlight there is a tendency in these studies to use the terms 'motives' and 'reasons' interchangeably. This can lead to confusion regarding the exact concept that has been measured and the conclusions that can be drawn from the presented findings. Both social motives and reasons are seemingly important to students and related to their patterns of alcohol consumption. However, there are areas of commonality around specific social reasons such as those relating to image, status and managing other's perceptions which have not been pursued or explored in depth. To address this gap in our knowledge, further research is required which examines the relationship between university students' alcohol consumption and specific social motives, as well as research which asks students how such specific social reasons feature in their alcohol decision making.

2.5 Alcohol consequences

As outlined thus far, existent research has identified students who possess positive social expectations about alcohol use and are motivated to drink alcohol for social reasons. The motivational model suggests that such positive social alcohol expectancies and social motives are likely to lead to engagement in alcohol use. However, less is known about the social consequences they actually experience when drinking alcohol and the impact these social consequences have on future drinking behaviour (Lee et al., 2011).

Existent research has identified that university students encounter a range of negative consequences when they drink alcohol. UK students have reported the following negative consequences whilst drinking alcohol; physical injury, poor academic performance, contact with the police and unplanned sexual activity (O'Neill et al., 2015). These negative

consequences can impact upon the individual student, other students in close proximity and have implications for the higher education institutions at which the student studies (Perkins, 2002b).

Whilst the negative consequences of student drinking behaviour are of serious concern, previous research has been criticised for solely focusing on the negative consequences and failing to acknowledge or understand the strong and powerful positive consequences that may reinforce students' drinking behaviour (Barnett et al., 2014; Lee et al., 2011; Molnar et al., 2009; Park, 2004). The positive consequences of alcohol consumption are said to be "clearly on the mind of many students" (Park, 2004, p. 319) and exploring students' experiences of rewarding positive consequences is of theoretical and practical importance as it may reveal what reinforces a behaviour that can result in harmful consequences (Lee et al., 2011).

Positive drinking consequences are considered to be distinct from the other constructs which offer an explanation for student drinking because positive drinking consequences reflect the actual experience of a positive outcome not simply the belief that one will occur (Capron & Schmidt, 2012; Park et al., 2013). The relevance of actual experience is supported by evidence that positive drinking consequences predicted problem drinking in US undergraduate students above and beyond positive drinking motives, and also accounted for the variance in drinking quantity, frequency and tendency to engage in heavy episodic drinking (Capron & Schmidt, 2012; Corbin, Morean, & Benedict, 2008). Furthermore, Park et al. (2013) identified reciprocal influences between patterns of heavy drinking and positive drinking consequences, beyond the influence of positive alcohol expectancies, whereby US college students who had previously engaged in frequent episodes of heavy drinking experienced more positive drinking consequences over time (Park et al., 2013).

Previous research has also highlighted key differences in the way that positive and negative consequences influence student drinking behaviour. Positive consequences are said to occur more frequently and are more significant than negative consequences (Barnett et al., 2014; Park, 2004). Thus, positive consequences are thought to reinforce students' positive expectancies about drinking and lead to the student planning to repeat the same drinking behaviour to achieve similar positive consequences (Barnett et al., 2014; Park, 2004). US college students who experienced more positive consequences in the past year viewed positive consequences as more likely to occur and to be more salient (Logan, Henry, Vaughn, Luk, & King, 2012). Interestingly, students who experienced more negative consequences rated consequences as less negative and no more likely to occur, unless

they had experienced the very highest levels of negative consequence (Logan et al., 2012). Thus, Logan et al. (2012) concluded that there is a “rich get richer” relationship, where positive consequences become more salient and frequent, whilst the negative consequences do not get worse or any more frequent.

Previous research has captured the variety of positive consequences university students describe experiencing during and after a drinking episode. Drinking alcohol is synonymous with positive drinking consequences such as; having fun and a good time, feeling confident and optimistic, being able to express oneself and maintain energy levels on a night out (Lorant et al., 2013; Nyström, 1992; Park, 2004; Social Research Institute, 2013). Molnar et al. (2009) have also demonstrated that alcohol use was associated with a more positive sense of subjective wellbeing, indicated by greater life satisfaction, more frequent positive affect and less frequent negative affect among Canadian university students over a two-and half-year period.

Of significance, when exploring the positive consequences and outcomes of alcohol consumption, students principally refer to the positive social consequences, which relate to the positive impact alcohol has on their social lives, ability to make friends and interact with their peers. For example, students report that alcohol provides a way to ease into conversations and get to know peers better, helps them to approach peers who they would not usually have spoken to, make new friends and to even resolve social differences using enhanced interpersonal problem-solving skills when drinking (Lorant et al., 2013; Nyström, 1992; Park, 2004). Young adults in the UK also claimed that ‘Drunken Nights Out’ enable them to adopt an alternative identity and act differently, experience more intense or extreme social interactions and to take part in story telling after a night out (Christmas & Seymour, 2014).

Students are also aware of the negative impact that abstinence or non-drinking can have on their social life at university. For example, UK students have reported that not drinking had a negative impact on their ability to enjoy nights out and meet new people (National Union of Students, 2016). Students also reported that not drinking and staying sober on a night out would mean you were left out, excluded and did not have as good a time as others who were drinking heavily (Hallett et al., 2014; Hogan & O’Loughlin, 2013).

Among the positive social consequences described by university students, there appears to be a theme around feelings of fitting in, bonding and belonging. University students from the UK, Australia and New Zealand have all explained that drinking alcohol with their peers allowed bonds to form between individual students (Christmas & Seymour, 2014; Hallett et al., 2014; Hebden, Lyons, Goodwin, & McCreanor, 2015). Drinking alcohol was labelled as

a “social lubricant” which could break down barriers, lower inhibitions and foster the openness required to aid the overall friendship and bonding process (de Visser et al., 2013; Hallett et al., 2014; Seaman & Ikegwuonu, 2011). Australian university students reported that alcohol played a meaningful role in the way they found belonging within both youth and university culture (Hallett et al., 2014). UK university students and young adults also expressed that drunken nights out allowed a sense of belonging to develop within a group (Christmas & Seymour, 2014). The shared aspects of drinking together in a group such as buying rounds were seen as fostering the sense of inclusivity and belonging (de Visser et al., 2013).

It is important to note, however, that measuring drinking consequences has proved to be problematic. Some studies have used a series of bespoke questions instead of pre-validated questionnaires (e.g. Park, 2004) and even where studies have used more reliable measures, researchers have acknowledged the limitations of the available tools. In particular, the positive drinking consequences questionnaire (PDCQ) (Corbin et al., 2008), a tool commonly used to measure drinking consequences, measures the frequency of a consequence occurring but not whether the consequence is perceived as positive, negative or neutral (Capron & Schmidt, 2012). In addition, studies do not generally ask participants to specify the positive consequences they experience when drinking, nor do they capture how participants appraise and evaluate the consequences they experience and how this influences future decision making regarding alcohol use (Capron & Schmidt, 2012; Lee et al., 2011). This is a gap in the current literature, where research is needed which provides students with the opportunity to discuss drinking consequences, including their appraisals and subsequent decision making.

Research that has begun to explore how students appraise consequences has identified that whilst students in the UK were aware of the negative impact alcohol has on their academic studies, finances and physical health, only 9% of the sample thought that their alcohol consumption had a negative impact on their personal life (Bewick et al., 2008). In addition, some negative consequences such as blackouts, hangovers and waking up in someone else’s bed were actually perceived positively by US college students (Mallett, Bachrach, & Turrisi, 2008). More recently, de Visser et al. (2013) reported that some of the ‘downsides’ associated with drinking were viewed as opportunities for social bonding among young people in the UK. For example, caring for drunk friends or being cared for by friends, as well as suffering a hangover together were thought to show the social nature of young people’s alcohol consumption (de Visser et al., 2013). Thus, research exploring the evaluation of drinking consequences suggests that outcomes viewed as negative by researchers and university staff may be considered positive by university students and that

experiencing a negative consequence does not necessarily deter future drinking (Mallett et al., 2013; Park et al., 2013).

To complicate the matter further, no single drinking consequence is thought to be experienced in isolation. Rather a number of positive and negative consequences are likely to be experienced in the same drinking episode (Lee et al., 2011). In relation to this, Park et al. (2013) suggested that some students may be willing to experience long-term negative consequences in order to experience the more immediate positive consequences. Dodd et al. (2010) also reported that for some students the negative consequences associated with excessive alcohol consumption such as embarrassment and relationship issues, were outweighed by positive expectancies regarding social approval and peer acceptance.

In summary, previous research has outlined the powerful nature and salience of positive social consequences. Students also appear dismissive of negative consequences and seemingly even interpret some of such consequences as having positive benefits. Whilst positive social consequences require further research attention, areas of similarity have emerged regarding the positive effects of alcohol on friendship formation, bonding and belonging. There is a need to understand more about specific consequences, and not to continue to study broad categories or types of consequences as previous research has done (Merrill et al., 2014). To date, drinking consequences research has mainly focused on negative consequences and has not examined the relationship between alcohol use and different domains of positive consequences (Lee et al., 2011). It is imperative for future research to continue to identify the most salient consequences in order to develop effective alcohol interventions which address the hazardous alcohol use of students (White & Ray, 2014).

2.6 Conclusion

The purpose of this literature review was to explore what is currently known in relation to the role of social factors in student drinking. The motivational model provided a structure through which to examine current research, viewing the body of literature through the inter-related constructs of alcohol expectancies, drinking motives and alcohol consequences. The literature review revealed that social factors were found to play an important and relevant role at all four points in the model. Figure 2, an adapted version of the motivational model, attempts to demonstrate which social factors play a role and where in the model they contribute.

Figure 2. Adapted Motivational Model showing importance of social factors

ANTECEDENTS	EXPECTED EFFECTS OF DRINKING	DRINKING MOTIVES	BEHAVIOUR	CONSEQUENCES
<p>Historical & current factors</p> <ul style="list-style-type: none"> • Alcohol use a normal part of students' social life • Alcohol present at most social gatherings • Peer encouragement 	<p>Positive, external alcohol expectancies</p> <p>Alcohol will:</p> <ul style="list-style-type: none"> • enhance social status • make socialising easier • help me make friends & bond with peers • facilitate social interactions 	<p>Social motives & reasons</p> <ul style="list-style-type: none"> • Social camaraderie • Promote positive image & reputation • Prevent negative peer judgement & stigmatisation 	<p>Alcohol use</p>	<p>Positive drinking consequences</p> <ul style="list-style-type: none"> • Alcohol aids the friendship & bonding process • 'Fitting in' & inclusivity • A sense of belonging with peer group

As can be seen in Figure 2, university students find themselves in an environment where drinking alcohol is a normalised and accepted behaviour upon which many social activities are based (Antecedents) (LaBrie et al., 2012; White & Jackson, 2004; Wicki et al., 2010). Students expect that drinking alcohol will have a positive effect on their social life and their interactions with their peers (Expectancies) (Hallett et al., 2014; Zullig et al., 2010). Students are motivated to drink alcohol in order to access social rewards such as social camaraderie, whilst promoting a positive image of oneself and avoiding negative peer judgements (Motives and reasons) (de Visser et al., 2013; Hogan & O'Loughlin, 2013; LaBrie et al., 2007). During or after engaging in alcohol consumption, students experience positive social consequences such as a sense of belonging and inclusion within a peer group (Consequences) (Christmas & Seymour, 2014; Hallett et al., 2014; Hebden et al., 2015). Students also reported being able to re-frame negative consequences into opportunities for social bonding, and positive expectancies relating to social approval and peer acceptance were thought to outweigh such negative consequences (de Visser et al., 2013; Dodd et al., 2010).

Whilst this literature review has demonstrated the relevant and important role of social factors in the explanation of student alcohol use, it has also identified the gaps in the knowledge base and questions which remain unanswered. When appraising the overall literature, broad criticisms of the student alcohol literature were identified including the dominance of research involving US college students (Wicki et al., 2010) and methodological concerns regarding participant characteristics. For example, the reliance upon undergraduate psychology students as participants (e.g. LaBrie et al., 2007; Lewis & O'Neill, 2000; Norman et al., 2012; Pilatti et al., 2015) or those reprimanded for their alcohol behaviour within intervention studies (Cronce & Larimer, 2011; White et al., 2008).

When appraising each thematic body of alcohol research, specific gaps in the existing literature were identified throughout this chapter. The current literature on alcohol expectancies suggested further clarification is required regarding the relative importance of positive, negative or both types of alcohol expectancies. There is also a need to explore the context and environment in which university students' function, with the aim of understanding the basis of alcohol expectancies (i.e. anticipated incentives available), including whether specific cultures or social groups promote ideas about the effects of alcohol use, and whether the anticipated effects occur (i.e. alcohol consequences).

Within the drinking motives and reasons literature, existing research has either focused on quantifying the relationships between broad categories of motives (i.e. social motives) and alcohol use, or capturing the numerous social reasons students have for alcohol consumption. The reliance on measures such as the DMQ in previous studies has meant that alternative social motives including affiliation and status seeking have not been considered (Griskevicius & Kenrick, 2013; Kenrick et al., 2010). There is a need, therefore, to examine different types of social motives and specific social reasons for alcohol use in the student population.

Similarly, the research examining drinking consequences was also criticised for continuing to use broad categories or types of consequences, when there is a need to understand the specific consequences students' experience when consuming alcohol and how they evaluate such consequences. (Merrill et al., 2014). As a result, researchers have failed to acknowledge and explore the specific and reoccurring social themes reported within the drinking motives and alcohol consequences literature. In particular, young people have reported that they engage in alcohol consumption to manage their image and reputation (i.e. a drinking motive) (de Visser et al., 2013), and that after drinking alcohol students feel a sense of belonging within a group (i.e. a consequence) (Christmas & Seymour, 2014; Hallett et al., 2014). These themes have typically been identified in qualitative research studies and require further quantitative examination. Most importantly, however, these positive social reasons and consequences have been reported by young people and students in the UK.

Finally, previous research has focused on the cognitive processes associated with alcohol use, such as beliefs about the anticipated effects of alcohol (Lee et al., 2011). Moving forward, there is a need to consider the consequences students' actually experience when they consume alcohol, and how students appraise each consequence and impact of these consequences on alcohol decision making (Capron & Schmidt, 2012; Lee et al., 2011). Where the consequences of alcohol consumption have been considered, research has

focused on the negative consequences of excessive alcohol use and there is a need to divert research attention towards understanding the powerful and salient positive consequences that may reinforce students' drinking behaviour, in particular the social consequences (Barnett et al., 2014; Lee et al., 2011; Molnar et al., 2009; Park, 2004).

To offer an original contribution to knowledge this thesis looked to address four of the gaps which have been highlighted in the existing literature. Firstly, this programme of research looked to explore the alcohol consumption and alcohol behaviour of university students in the UK. Secondly, this programme of research was approached from a perspective which acknowledged that for university students there are likely to be positives, benefits and incentives associated with alcohol use. Thus, this research intended to challenge the problem focused literature and provide a new perspective. Thirdly, within this thesis an exploration of the cultural and social context of alcohol behaviour among students was undertaken, with the aim of elucidating specific information about the balance of positive and negative alcohol expectancies, drinking motives and consequences, and how these factors feature within alcohol decision making. Finally, this thesis focused on two specific social factors, one social motive and one social consequence, which were identified during the literature review as pertinent in the explanation of drinking behaviour and to date have not been examined in detail.

2.7 The Current Research

This thesis focused on exploring the role of specific social factors in the alcohol consumption and drinking behaviour of UK university students. The social factors of interest were a specific social motive (image & reputation) and consequence (sense of belonging) which had previously been identified in qualitative studies involving young people and students in the UK. Three research studies were undertaken, each with the aim of addressing the unanswered questions raised above. The nature of the gaps identified in the previous literature suggests that understanding student drinking behaviour is complex and requires consideration from different perspectives. Thus, the three studies in this thesis involved the use of three different methods, quantitative analysis, qualitative interviews and a sociometric approach, to offer an informative yet complimentary insight into student alcohol consumption.

In the first study within this thesis, there was a need to use a quantitative approach to determine whether the specific social motive and consequence identified in previous qualitative research were relevant and related to student alcohol use in a UK sample. As a starting point for this research, the aim of this initial study was to establish the nature of the

relationship between student alcohol consumption and motives pertaining to image and reputation, and feelings of belonging. During the second study, a qualitative research design was implemented to specifically gather more detailed information on the relationships identified in study one between student alcohol use, image and reputation, and belonging, whilst capturing information on how such motives and consequences influence students' alcohol decision making and overall social experiences. This second study addressed a specific gap in the existing literature by exploring the social context and culture of alcohol behaviour among UK student-athletes through semi-structured interviews. Student-athletes are a discrete group who often have their own sub-culture on university campuses and have previously been identified as a high-risk group for hazardous alcohol consumption, thus making them an ideal group through which to explore unanswered cultural research questions. Finally, the third and final study was exploratory in nature, devoting attention to further examining the relationship between student alcohol consumption and peer judgements of social image and reputation using a sociometric approach.

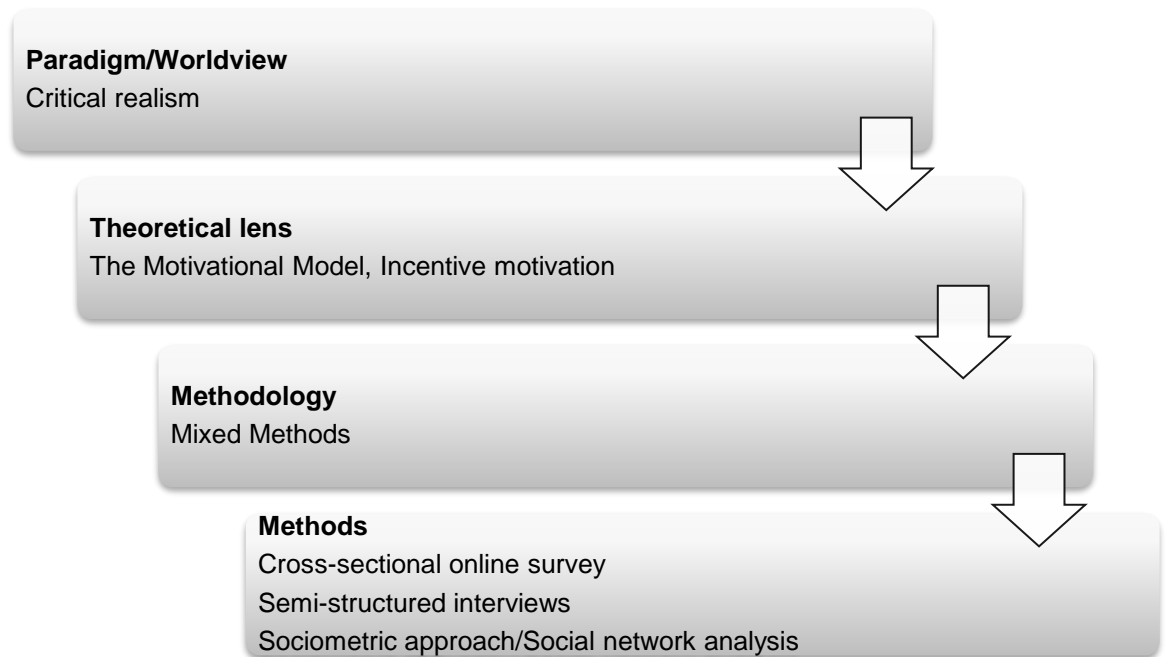
Prior to embarking on the proposed mixed methods research, consideration was given to the philosophical assumptions which were likely to guide the studies within this thesis. An overview and conceptualisation of the four elements which influenced the philosophy of this programme of research is shown in Figure 3. The nature of mixed methods research poses a challenge for traditional perspectives because different methods are commonly associated with specific paradigms and there are elements within such worldviews which are in direct conflict with one another (Maxwell & Mittapalli, 2010). In seeking a resolution to this issue, there are two schools of thought, firstly there is the perspective that researchers should opt for a paradigm which accommodates the philosophical assumptions of both qualitative and quantitative research such as pragmatism or critical realism (Creswell & Plano Clark, 2017; Maxwell & Mittapalli, 2010). The alternative is to follow the separate paradigms or philosophical assumptions of each method, known as a dialectic stance (Creswell & Plano Clark, 2017; Maxwell & Mittapalli, 2010). With the current research in mind, the researcher examined both schools of thought and considered; i) a dialectic stance, adopting the paradigms of postpositivism and constructivism, and ii) a single paradigm, exploring the approaches of pragmatism and critical realism.

A dialectic stance suggests multiple paradigms can be used within mixed method research; however, each paradigm must be named explicitly and the contested arguments or opposing values of each paradigm are honoured (Creswell & Plano Clark, 2017; Shannon-Barber, 2016). Mixed methods research which follows a dialectic stance should focus on the tensions, contradictions and divergence between the paradigms, and quantitative and

qualitative findings (Creswell & Plano Clark, 2017; Shannon-Barber, 2016). In this instance, a dialectic perspective was considered too rigid, requiring traditional research features to be followed with the inability to reconcile findings from qualitative and quantitative elements of this thesis. The researcher is of the perspective that there is value in both quantitative and qualitative data collected about the research topics within this thesis and it is the potential to combine or triangulate such data sources which provides the greatest insight. Therefore, the researcher opted against adopting a dialectic stance in this instance and pursued a further understanding of pragmatism and critical realism.

When considering pragmatism, the researcher could observe inherent value in a worldview which abandons the dichotomy between postpositivism and constructivism, permits the use of quantitative and qualitative research methods within a single research study, emphasises the importance of research questions above worldviews and seeks to identify shared meaning to inform practical or outcome orientated solutions (Creswell & Plano Clark, 2017; Shannon-Barber, 2016). In this thesis, however, there were no plans to combine both quantitative and qualitative research methods in a single study and whilst the research questions posed were important, the researcher considered her ontological and epistemological beliefs to be of equal importance and believed that such concepts should be given more emphasis than permitted within the pragmatic approach. Therefore, for this thesis, the studies were undertaken from the perspective of critical realism.

Figure 3. Philosophical elements which underpinned this programme of research.



1

Critical realism is a philosophical position which accommodates and supports the key characteristics of both quantitative and qualitative research methods (Creswell & Plano Clark, 2017; Maxwell & Mittapalli, 2010). Critical realists agree with positivists that there is a real and objective world which can be observed and studied, however our knowledge and understanding of this world is socially constructed (Creswell & Plano Clark, 2017; Denzin & Lincoln, 2011; Maxwell & Mittapalli, 2010). Social phenomenon and mental entities such as emotions, beliefs and values are all part of reality and as a result human interpretation of the world should be studied (Denzin & Lincoln, 2011; Maxwell & Mittapalli, 2010). Importantly, the critical realist perspective advocates that an individual's interpretation of the world and current social situation are real, yet separate phenomena, which can causally interact with each other (Maxwell & Mittapalli, 2010).

As a philosophical perspective, critical realism is consistent with the variables of interest in this thesis. For example, there is no desire to manipulate alcohol use in an empirical manner, however there is the intention to understand the social meaning of alcohol use in the context of a university setting and to explore how alcohol use may influence feelings of

¹ Model adapted by Creswell and Plano Clark (2017) from Crotty (1998)

belonging and fitting in, and operate as a mechanism through which one's image and reputation can be managed. Thus, implicit within the research problem and questions is the view that mental entities, social phenomena and situations are real and likely to interact to influence alcohol behaviour. The paradigm of critical realism is also consistent with the researcher's background in psychological therapy, where cognitive behavioural therapy was used to address mental health problems. By adopting such a therapeutic approach, there is an assumption that mental entities are real and the application of this therapeutic method, which emphasises the relevance of emotions, beliefs and behaviour, is effective in changing an individual's psychological state and circumstance.

As guided by the philosophical assumptions of critical realism, student alcohol consumption was viewed through a theoretical lens of the motivational model (Cox & Klinger, 1988). The motivational model has already proved a useful framework through which to examine the role of social factors within the existing student alcohol literature. There is also inherent value and flexibility in the large numbers of variables grouped within the three inter-related categories of the model and the suggested relationships between the categories in an effort to explain alcohol use (Cox & Klinger, 1988). For example, the motivational model acknowledges the interaction between an individual's current situation and the cognitive processes which form alcohol expectancies and drinking motives. More specifically, the key assumptions of the motivational model, including the theory of incentive motivation on which the model is based, suggest firstly that individuals make choices about their alcohol use based on emotional and rational processes, and secondly that an individual's alcohol use can be motivated by the incentives they associate with alcohol (Cooper et al., 2016; Cox & Klinger, 1988; Skinner & Aubin, 2010). The motivational model, therefore, provided the researcher with a structure through which to challenge traditional problem-focused approaches to student alcohol consumption and develop research questions regarding the social incentives and benefits students may associate with alcohol use.

The overall design of this mixed methods research involved fixed and emergent aspects, where the methods used in each study were fixed and pre-determined prior to commencement, however the research questions and lines of inquiry were influenced by the emergent findings as research progressed (Creswell & Plano Clark, 2017; Tashakkori & Teddlie, 2010). An explanatory sequential mixed methods design was used, involving two phases, an initial quantitative phase (study one) followed by a qualitative phase (study two) (Creswell & Plano Clark, 2017). A third and final phase, study three, dedicated research attention to the elusive concepts of image and reputation through peer nominations and sociometric approach.

2.8 Ethical Considerations in the Current Research

As demonstrated by the literature presented within this chapter, the topics of interest within the current research centre upon a transitional period within young people's lives, their ability to form and maintain peer relationships whilst at university, and the consumption of alcohol and associated alcohol or risk-taking behaviours. The researcher wishes to acknowledge the sensitive nature of the research topics and highlight the consideration given to participant's psychological and physical health during the experimental studies in this thesis. In particular, there was a need to be mindful of students who scored highly on the AUDIT, indicating risk to their physical health, students who disclosed incidents of physical harm to self or others whilst drinking, and any students who described feelings of loneliness and isolation.

As per the author's declaration on page nine, the researcher sought and was granted ethical approval by the Faculty of Health and Life Sciences Ethics Committee at Northumbria University for each of the experimental studies within this thesis. This process of ethical clearance involved numerous aspects, including a risk assessment where appropriate steps were outlined to ensure the safety of research participants. Within the risk assessment for all studies consideration was given to the venue, participant's wellbeing, comfort and confidentiality through the study procedure, and any issues to arise from the study materials, for example the desire for feedback or interpretation of questionnaire scores and any psychological distress due to questions asked.

For all of the experimental studies, good practice ethical procedures were followed, namely each participant was asked to read an information sheet and given the opportunity to ask the researcher any questions about the study before proceeding. Once happy to proceed, each participant was invited to sign a consent form, with the knowledge that they could withdraw from the study at any time. On completion of each research study, each student was given a debrief information sheet, which invited participants to contact their family doctor and/or alcohol support charities if they were concerned about their own or others alcohol consumption and associated risk behaviours. The researcher and her supervisory team also agreed that if the researcher felt any issues had been raised during the course of the study which she was concerned about she was to request a supervision meeting and further action would be discussed. Finally, the researcher paid close attention to the confidentiality of participants, taking steps to anonymise the quantitative and qualitative data when discussing, presenting or writing up the research within this thesis. Furthermore, specific ethical considerations for each study are highlighted within the Method sections of the subsequent chapters, namely subsections 3.2.3, 4.2.4 and 5.2.3.

Chapter 3 - Study 1: Relationships between UK students' alcohol consumption, social belonging and need for popularity

3.1 Introduction

The opening chapter of this thesis identified that university students in the UK consume alcohol at hazardous levels and engage patterns of excessive alcohol use such as binge or heavy episodic drinking (El Ansari et al., 2013; Heather et al., 2011; Norman et al., 2012; Szmigin et al., 2008). In particular, specific sub-groups of students on university campuses have been identified as being at risk for hazardous drinking, including first year students, students studying medicine or law degrees and students who participate in sport (Bogowicz et al., 2018; El Ansari et al., 2013; Zhou & Heim, 2014). This excessive pattern of alcohol use is associated with health, social and academic risks which can cause negative consequences whilst at university and in later life (Bewick et al., 2008; Marmorstein et al., 2010; O'Neill et al., 2015; White & Hingson, 2013). Despite the associated risks and attempts to intervene, students are continuing to drink hazardous and harmful amounts of alcohol (Grant et al., 2013).

One possible explanation for the limited effectiveness of alcohol interventions is that existing strategies have failed to address the 'allure' of alcohol use for students. In particular, there is a lack of research focusing on the positive social consequences or incentives which students associate with drinking to excess (Capron & Schmidt, 2012; Lee et al., 2011; Molnar et al., 2009). The second chapter of this thesis, a literature review, demonstrated that social factors are important to students and within each body of literature examined, students held social alcohol expectancies (McBride et al., 2014; Pilatti et al., 2015; Zullig et al., 2010), social motives and social reasons for engaging in alcohol use (Collins et al., 2014; Grant et al., 2013), and experienced social consequences as a result of drinking (Hallett et al., 2014; Lorant et al., 2013).

Whilst conducting the literature review, a number of gaps within the existing knowledge base were identified. One of the gaps within the existing literature was that specific social themes which had been reported within the drinking motives and alcohol consequences literature had not been examined in detail. More specifically, young people and students had reported that they were motivated to consume alcohol to manage their image and reputation, and after drinking alcohol with their peers they felt a sense of belonging within a group (Christmas & Seymour, 2014; de Visser et al., 2013; Hallett et al., 2014). These

findings were identified in qualitative research studies and have yet to be examined using quantitative methods. Therefore, the first study of this thesis set out to quantitatively examine the relationships between these key social factors and alcohol consumption among a sample of UK students. This study will also offer an original contribution to knowledge by examining a specific social motive and a specific social consequence of student alcohol use within a single study. Firstly, however, there was a need to conceptualise the terms used in the qualitative studies within the wider literature and identify appropriate means of measuring such concepts.

3.1.1 Image, reputation and peer judgement

Across the wider literature broad concerns regarding one's image, reputation and peer judgements are associated with the concept of popularity (Bukowski, 2011; Cillessen & Marks, 2011). Popularity is an elusive and flexible social construct, which can vary depending upon the social context in question, the population of study and the researcher's academic discipline (Bukowski, 2011). Across previous literature, the definition which is widely accepted is that of Bukowski and Hoza (1989), where popularity is defined as the extent to which a person is liked or disliked by their peers and how much status or notoriety the person has in the group (Bukowski, 2011; Lafontana & Cillessen, 1999).

Regardless of the definition adopted, an accepted feature of the concept of popularity is that it refers to the status of an individual within a group and an individual cannot be popular without the presence of a group (Bukowski, 2011). In order to be considered popular, the individual needs to be a central member of the group, adopting the group's traditions, values and norms, and yet also appear distinct from their peers, asserting their own goals (Bukowski, 2011). An individual's position in their social group will determine whether or not they adopt a behaviour and their role in encouraging others to behave in the same manner, thus those who are popular act as role models and shape the behaviour of others in the group (Phua, 2011).

Popularity can be conceptualised and measured in a number of different ways depending upon the research design and the perspective being assessed (Cillessen & Marks, 2011; Cillessen & Rose, 2005; Tucker et al., 2011). For example, popularity can be determined through observation or discussion in qualitative studies, or by using self, peer or observer (i.e. teacher or coach) ratings which are statistically analysed in quantitative studies (Cillessen & Marks, 2011). Self-ratings involve the individual assessing their own social status and degree of popularity on a series of questionnaire items, usually scored on a Likert scale, whereas peer ratings involve asking members of the group to nominate those

they like the most or think are the most popular (Cillessen & Marks, 2011; Tucker et al., 2011).

Previous studies which have adopted peer ratings have demonstrated that popularity is a key social outcome associated with heavy drinking. Balsa, Homer, French, and Norton (2011) identified that US adolescents were socially rewarded with popularity for conforming to levels of peer alcohol use. Dumas et al. (2014), studying young adults in Canada, found that those who drank more frequently were considered more popular in their drinking groups than those who drank less. Dumas, Graham, Bernards, and Wells (2014) concluded that heavy drinking may be positively reinforced as it helps young adults to achieve or maintain a positive social standing among peers.

Alternatively, the relationship between student alcohol consumption and popularity may be moderated by an individual's need for popularity, a dispositional trait which differs across individuals. Need for popularity refers to an individual's motivation to act in certain ways because of a desire to be popular (Santor, Messervey, & Kusumakar, 2000). The need for popularity is considered a chronic, yet specific impression-management goal which can be measured using a self-report questionnaire (Santor et al., 2000; Utz, Tanis, & Vermeulen, 2012). Impression management is the process through which individuals monitor and control how they are perceived and evaluated by their peers, and are subsequently motivated to behave in a manner which will create a positive impression (Martin & Leary, 2001). In general, a need for popularity has been linked to specific personality traits and engaging in risky behaviour including sexting and personal disclosure on social media (Utz et al., 2012; Vanden Abeele, Campbell, Eggermont, & Roe, 2014)

In keeping with the concepts of need for popularity and impression management, young people in the UK have been found to consciously use alcohol as a 'social tool' to manage their own image and also a means by which they judge others, where drinking is a marker of status whilst abstinence is perceived as unusual or abnormal (de Visser et al., 2013). Positive relationships have also previously been identified between the need for popularity and beer consumption, experimentation with hard drugs and frequent use of soft drugs among 16-18 year olds in Canada (Santor et al., 2000). More recently, Thompson and Romo (2016) included the need for popularity in a composite measure of social norms which was shown to contribute to alcohol problems and alcohol related social media posting among US students. However, the links between the need for popularity, alcohol consumption and alcohol-related risk among UK students remain unclear.

Given the numerous ways in which popularity can be conceptualised and measured, it was important to select an appropriate starting point to explore the relationship between

popularity and UK students' alcohol consumption within this thesis. As a concept, need for popularity was consistent with previous research, where UK students had described being motivated to use alcohol to manage their image, reputation and to appear popular (de Visser et al., 2013). There is also intuitive appeal in exploring the extent to which students are concerned with popularity, as previous research has suggested that university students are particularly concerned with establishing and maintaining their peer group and will therefore engage in any behaviour which creates a favourable impression (Arnett, 2005; Martin & Leary, 2001; Merrill & Carey, 2016; White & Jackson, 2004).

3.1.2 Sense of belonging

A sense of belonging is considered a marker of social and psychological functioning, and an interpersonal process which can influence health and wellbeing (Hagerty, Williams, Coyne, & Early, 1996). The concept of belonging or belongingness features within key psychological theories such as self-determination theory (Ryan & Deci, 2000) and Maslow's hierarchy of needs (Maslow, 1943).

However, in a similar manner to popularity, belonging can be conceptualised in different ways depending upon the perspective being adopted (Ostrove & Long, 2007). The need to belong represents a basic and evolved emotional drive to form and maintain, positive and significant, interpersonal relationships (Baumeister & Leary, 1995; Watt & Badger, 2009). The need to belong is thought to be present in all humans, however it is likely to vary in strength, intensity and how the desire is expressed and satisfied (Baumeister & Leary, 1995). As a motivational state, the desire to belong is said to underpin many human behaviours and to stimulate goal-directed behaviour in an attempt to satisfy one's need (Baumeister & Leary, 1995).

Whereas, the sensation or feeling of belonging represents an affective state (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). Hagerty et al. (1992, p. 173) defined a sense of belonging as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment". From this perspective, an individual is likely to evaluate whether they feel valued, needed and important within this environment, and whether they fit in or share characteristics with other members of the group (Hagerty et al., 1992; Hagerty et al., 1996). Where these conditions have been satisfied an individual experiences positive affect, however should these relationships be broken or threatened negative affect is likely to occur (Baumeister & Leary, 1995).

The chances of forming relationships and being accepted by a group are increased by displaying behaviours considered to be desirable by that group (Leary, 2010). This can, however, lead to individuals engaging in risky behaviours to gain acceptance, for example adolescents experimenting with drugs (Siegel, Alvaro, Patel, & Crano, 2009) and young people refusing healthy eating options for fear of marginalisation (Stead, McDermott, Mackintosh, & Adamson, 2011). University students may be just as susceptible as other groups to behaving in risky, yet socially desirable ways to achieve a sense of belong. For emerging adults, peer relationships are of great importance (White & Jackson, 2004). A connection to others (or lack thereof) is a salient concern for students (Sherry et al., 2012), who are looking to form a new support network having left friends and family behind to attend university (Arnett, 2005). Emerging adults are also afforded the opportunity to explore their social identity whilst at university (Arnett, 2000, 2005). Crucially, one's social identity is said to be formed through knowledge of belonging to a group and that membership of the group holds some emotional value or significance for the individual (Hogg & Reid, 2006).

Notably, one of the positive consequences young adults, including students, report during and after a drinking episode is a sense of belonging to a group (Christmas & Seymour, 2014). Therefore, students may conclude that drinking with their peers is an effective way to gain social belonging in their new culture. In research outside of the UK, McNeely and Falci (2004) found that amongst US adolescents, social belonging was associated with occasional smoking and drinking to the point of getting drunk. Whilst, Murphy, Hoyme, Colby, and Borsari (2006) identified a positive relationship between social belonging and frequency of alcohol consumption for male US college students. The relationship between alcohol consumption and social belonging in UK students has yet to be examined.

In summary, student drinking in the UK remains problematic, with students resistant to current safe drinking campaigns (Henson et al., 2015; Moreira et al., 2012). One of the challenges facing alcohol interventions is the social consequences students describe when drinking (Lorant et al., 2013; Nyström, 1992; Park, 2004). In qualitative studies, students have described the specific social benefits they believe are linked to their alcohol consumption, namely a sense of belonging (Christmas & Seymour, 2014) and the ability to use alcohol to managing their image and reputation (de Visser et al., 2013). Despite the potential relevance of these social factors, little is currently understood about their role as either motives or consequences in alcohol consumption. Research of this kind is of theoretical and practical importance as it may provide information about what reinforces excessive alcohol consumption (Lee et al., 2011), which may prove useful in the development of effective alcohol interventions.

In the light of the relevant literature above, this study aimed to test two hypotheses:

- i. students' alcohol use and alcohol-related harm as measured by the Alcohol Use Disorders Identification Test (AUDIT) will be predicted by the extent of their need for popularity;
- ii. students' sense of social belonging will be predicted by their patterns of alcohol consumption and alcohol-related harm as indicated by their AUDIT scores.

As highlighted in Chapter one, previous literature has documented several student groups who are considered at risk in terms of their alcohol consumption, and there is need to explore this further. As a result, pertinent demographic and substance use information, including use of legal highs, will be collected to identify 'at risk' students and acknowledge the co-morbid nature of alcohol consumption and substance use among students (Wicki et al., 2010). Alongside 'at risk' groups identified using demographic characteristics, there was an interest in students who participated in sport and their level of alcohol consumption. Thus, a secondary aim was to gather data on the alcohol use of student-athletes, comparing levels of consumption and associated risk between student-athletes and non-student-athletes and whether the relationships hypothesised are present in both groups within the student population.

3.2 Method

3.2.1 Participants

734 university students volunteered to participate in this research (Mdn = 21.00 years, IQR = 2). All participants were over 18 years old. The sample contained 237 males and 480 females (not specified = 17). Participants were enrolled on Arts, Business and Science undergraduate (N = 681) and postgraduate (N = 51) courses at one UK university. Of the 734 participants, 151 were student-athletes (non-athletes N = 579), who took part in over 50 different team and individual sports, representing both the university and external sport organisations.

3.2.2 Measures

An online survey was created using Bristol Online Survey software. During the development phase, attention was paid to the design and format of the survey, including the flow and order of the questions, and the use of question routing to avoid participants being asked to answer questions which did not apply to them (Krosnick & Presser, 2010).

The most sensitive questions were placed at the end of the survey (Krosnick & Presser, 2010). The survey was comprised of the following five sections;

Demographic & Background Information: Participants were asked demographic questions about their age, gender, ethnicity, religion, course, year of study and living arrangements (Appendix 1). Participants were also asked whether they were members of university social societies and/or sports teams. If so, participants were asked to provide the name of the society or sports team. Students who were members of a sports team were further asked about their level of participation (e.g. trains and competes regularly, training-only member, coach etc.) and whether they occupied a position of responsibility (e.g. Team Captain). Preliminary questions regarding lifetime alcohol use and lifetime use of legal highs were included. If participants had used legal highs they were prompted to record the name of the drug(s) they had used.

Alcohol consumption and associated harm: The 10-item Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993) measures alcohol consumption and the consequences of hazardous and harmful drinking (Appendix 2). Participants were categorised into four alcohol-related risk groups using their score out of 40 and standard cut-offs (Babor et al., 2001): low risk (0-7), hazardous (8-15), harmful (16-19) and probable dependence (20+). An individual's score on the first three questions, known as the AUDIT-C, provides an indication of high risk drinking (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). The AUDIT has been shown to be a valid alcohol screening tool for students (Kokotailo et al., 2004). In this data set, Cronbach's alpha for the AUDIT was 0.80, indicating acceptable internal consistency.

Substance use: The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) (Ali et al., 2002) detects the use of a range of drugs. Although drug use was not a primary variable of interest, this information was collected to acknowledge the co-morbid nature of alcohol consumption and substance use among students (Wicki et al., 2010). Questions one and two of the ASSIST were chosen to elicit data about lifetime substance use and use over the past three months (Appendix 3). From the list of 10 substances included in the ASSIST, participants provided a 'yes' or 'no' response for lifetime use (Question 1) and a frequency rating such as 'Monthly' or 'Weekly' for use in the last three months (Question 2).

Need for popularity: This 12-item subscale was taken from a peer pressure, conformity and popularity questionnaire designed for adolescents (Santor et al., 2000) and measures the "need for popularity" which refers to whether an individual will act in certain ways in order to be viewed as popular (Appendix 4). For example, "I have done things to make me more

popular, even when it meant doing something I would not usually do” and “I’d do almost anything to avoid being seen as a loser”. Responses were rated on a Likert scale from 1 (Never True) to 5 (Always True) with a maximum score of 60. This subscale has previously been used with US students ($M = 19.13$ years, $SD = 1.1$) to explore alcohol consumption and social media use (Thompson & Romo, 2016). In student populations, a Cronbach’s alpha value of 0.87 has been reported for this subscale (Winter et al., 2014). In this study, Cronbach’s alpha was 0.89, indicating good internal consistency.

Social belonging: The 10-item Social Belonging subscale from the Quality of Student Life Questionnaire (QSLQ) (Keith & Schalock, 1993) measures an individual’s participation in activities, social contact with others and relationships (Appendix 5). For example, individuals were asked “Do you ever feel out of place in social situations?” and “How many times per month do you feel lonely?”. Responses were rated on a Likert scale from 1 (Never) to 3 (Frequently), with a total score of 30. The QSLQ was specifically created for high school and college students and has been used in a range of previous research contexts, including measuring cross-cultural difference in quality of life among US and Japanese students (Keith, Yamamoto, Okita, & Schalock, 1995) and alongside the measurement of alcohol consumption in students (James G. Murphy et al., 2006). In our data, Cronbach’s alpha for this subscale was 0.69 (Reasonable 0.7), however lower than the 0.91 documented in previous studies (Keith et al., 1995). Two items were identified as items which if removed could increase the reliability of the overall subscale. However, these items were retained because their removal would only marginally increase the Cronbach’s alpha value to 0.72.

3.2.3 Procedure

Following ethical approval, undergraduate and postgraduate students were invited to participate in the study via a standardised email (Appendix 6). Electronic email distribution lists for each academic subject were used to reach as many students as possible across the university. An outline of the research was provided, emphasising voluntary participation and inviting prospective participants to contact the researcher with any questions (Appendix 7). Data collection took place in the spring term, aiming to avoid key times when alcohol consumption may be increased or decreased (i.e. Fresher’s Week/exams). Participants were directed to the online survey through a link in the recruitment email. Participants were asked to provide informed consent (Appendix 8) and reminded that they could withdraw at any time and all information would be kept confidential. Participants could enter a prize draw, where a raffle prize was randomly allocated to one student. Participants completed the demographic information and the four questionnaires in the order stated in

the Measures section. In total, the survey had 41 questions. A pilot study with students established an average completion time of 20 minutes. Finally, participants were asked to read the debrief information (Appendix 9). Contact details for university and external alcohol support services were provided should participants have concerns regarding their alcohol consumption.

3.2.4 Statistical Analysis

Data were exported into IBM SPSS (v.22) by the survey software. 39 missing total AUDIT scores were identified in the data, most notably participants not responding to question two, which refers to the number of units consumed when drinking alcohol (1-2 to 10+units). For students who abstain there is no suitable response (i.e. 0 units). Thus, a score of 0 (lowest available option 1-2 units) was entered for 22 participants who had drunk very little in the last 12 months, if at all. This action did not alter participant's total scores, which all remained within the 'low risk' category.

Participants were grouped by their AUDIT score into the four risk categories for descriptive purposes, so that differences in social belonging and need for popularity could be examined depending upon levels of alcohol consumption and alcohol-related harm. Tests of normality revealed that AUDIT and social belonging scores were not normally distributed. As a result of this departure from normality, medians, interquartile ranges and non-parametric statistics were used. For differences between two groups Mann Whitney U tests were selected and for differences between three groups or more Kruskal-Wallis tests were completed. Spearman's rho correlations were used to determine relationships between two variables. The level of statistical significance for all tests was set at 1% because of the risk of Type 1 errors due to multiple comparisons between groups. As suggested by Field (2013), effect sizes are reported using Pearson's Correlation Coefficient.

Linear multiple regression was used to investigate whether continuous AUDIT scores were predictive of social belonging and whether need for popularity could predict AUDIT scores. The regression analyses were constructed to reflect the way social belonging and need for popularity are described in previous literature and measured in the subscales, namely as a social motive and social consequence respectively. Data were screened for violations of the assumptions underlying regression including normality, linearity and homoscedasticity of residuals (Tabachnick & Fidell, 2013). Plots of the standardised residuals revealed no serious deviations from normality. Of note, regression is considered robust to violations of this nature, which are only of concern with small sample sizes (Keith, 2014). All first order associations with social belonging and AUDIT score at $p < .10$ were included in the regression analyses.

3.3 Results

3.3.1 Alcohol consumption

The characteristics of alcohol consumption in the overall sample are shown in Table 1. Of the sample recruited, 94.6% were current drinkers and 4.2% abstained from alcohol consumption within the last year (missing $n = 9$). 49% were hazardous drinkers, 11% harmful drinkers and 7% drinking at levels associated with probable alcohol dependence. 76% of the total sample scored 5 or above on the AUDIT-C, indicating high risk drinking. Significant group differences and associations in AUDIT scores are displayed in Table 1.

Table 1. AUDIT categories and alcohol consumption by demographic characteristics in the overall sample in study one

	AUDIT Score	Low Risk N (%)	Hazardous N (%)	Harmful N (%)	Probable Dependence N (%)	Current Drinkers (12months) N (%)	Current Abstainers (12months) N (%)	Total Sample N (%)
Age rho**	-.20							
	Mdn (IQR)							
Gender*								
Male	11.00 (8)	60 (25.3%)	118 (49.8%)	28 (11.8%)	27 (11.4%)	219 (92.4%)	15 (6.3%)	237 (100%)
Female	10.00 (7)	157 (32.7%)	235 (48.9%)	53 (11%)	25 (5.2%)	459 (95.6%)	15 (3.1%)	480 (100%)
Course & Year of Study**								
Undergraduate 1st Year	10.00 (8)	55 (28.2%)	94 (47.9%)	25 (12.7%)	20 (10.2%)	185 (94.4%)	9 (4.6%)	196 (100%)
Undergraduate 2nd Year	10.00 (8)	63 (28%)	107 (47.5%)	32 (14.2%)	15 (6.6%)	215 (95.5%)	9 (4%)	225 (100%)
Undergraduate 3rd Year	10.00 (8)	62 (33.2%)	96 (51.3%)	16 (8.5%)	12 (6.4%)	176 (94.1%)	8 (4.3%)	187 (100%)
Undergraduate 4 th Year	11.00 (7)	14 (22.6%)	33 (53.2%)	7 (11.3%)	6 (9.7%)	60 (96.7%)	2 (3.2%)	62 (100%)
MSc/MA/Postgraduate Taught	8.00 (5)	22 (44.9%)	23 (46.9%)	2 (4.1%)	0	45 (91.8%)	3 (6.1%)	49 (100%)
Ethnicity**								
White	10.00 (7)	178 (27.4%)	333 (51.3%)	80 (12.3%)	48 (7.4%)	621 (95.9%)	21 (3.2%)	649 (100%)
Asian	7.50 (9)	12 (46.2%)	9 (34.6%)	1 (3.8%)	2 (7.7%)	21 (80.7%)	5 (19.2%)	26 (100%)
Chinese	4.00 (6)	10 (76.9%)	3 (23.1%)	0	0	12 (92.3%)	1 (7.7%)	13 (100%)
Black	5.00	2 (66.6%)	0	1 (33.3%)	0	3 (100%)	0	3 (100%)
Arab	4.00	3 (75%)	0	0	0	1 (25%)	2 (50%)	4 (100%)
Mixed	7.00 (10)	6 (46.2%)	4 (30.8%)	0	1 (7.7%)	11 (84.6%)	1 (7.7%)	13 (100%)
Other	6.00 (9)	11 (55%)	8 (40%)	0	1 (5%)	9 (45%)	1 (5%)	20 (100%)
Living Arrangements**								
Halls of Residence	11.00 (8)	34 (25.7%)	65 (49.2%)	16 (12.1%)	15 (11.4%)	125 (94.7%)	5 (3.8%)	132 (100%)
With Parents	10.00 (8)	57 (%)	69 (%)	19 (%)	4 (%)	141 (94%)	7 (4.6%)	150 (100%)
With Student Friends	11.00 (7)	64 (%)	161 (%)	41 (%)	31 (%)	291 (95.4%)	11 (3.6%)	305 (100%)
With Non-Student Friends	13.00 (7)	3 (20%)	10 (66.7%)	0	2 (13.3%)	15 (100%)	0	15 (100%)
With Partner	8.00 (6)	30 (40%)	37 (49.3%)	4 (5.3%)	0	71 (94.7%)	4 (5.3%)	75 (100%)
Living Alone	6.00 (7)	20 (57.1%)	14 (40%)	1 (2.8%)	0	29 (82.9%)	4 (11.4%)	35 (4.8%)
Other	5.00 (5)	13 (68.4%)	4 (21.1%)	1 (5.3%)	1 (5.3%)	19 (100%)	0	19 (100%)
Total	10.00 (8)	223 (30.4%)	360 (49%)	83 (11.3%)	53 (7.2%)	694 (94.6%)	31 (4.2%)	734 (100%)

*p<.01 **p<.00 Significant differences in continuous AUDIT scores

With regard to student-athletes in the sample, there were significant differences for AUDIT score when comparing participation in university sport ($U = 18,669$, $z = -2.71$, $p < .01$, $r = -.10$). Students who participate in university sport had higher AUDIT scores ($Mdn = 12.00$, $IQR = 8$) than students who did not participate in university sport ($Mdn = 10.00$, $IQR = 8$). There were also significant differences in AUDIT score when comparing the type of sport (Kruskall-Wallis, $H(3) = 19.99$, $p < .001$). Students involved in team sports had higher AUDIT scores ($Mdn = 14.00$, $IQR = 8$) than those who participate in individual or paired sports ($Mdn = 9.00$, $IQR = 7$, $p < .01$, $r = .35$) and students who do not participate in sport at all ($Mdn = 10.00$, $IQR = 8$, $p < .01$, $r = .15$).

Significant differences in AUDIT scores were observed for students who participate at different levels in university sport (i.e. competitive vs. non-competitive participation) (Kruskall-Wallis, $H(3) = 17.52$, $p < .01$). Students who trained and represented their university sport competitively had higher AUDIT scores ($Mdn = 14.00$, $IQR = 7$) than non-competitive members ($Mdn = 8.00$, $IQR = 9$, $p < .01$, $r = .48$) such as coaches and training only members.

All other comparisons did not show any significant differences in AUDIT scores, including comparing students who do and do not participate in external sport and comparing participation across different sporting organisations (e.g. university, external etc.). There were also no significant differences between AUDIT scores when comparing students who did and did not participate in sport in general. Of note, however, this comparison was close to reaching statistical significance where $p = .011$.

3.3.2 Drug and Legal High use

Detailed information pertaining to drug use within the overall sample is shown in Appendix 10. On the ASSIST, alcohol was identified as the most frequently used substance by the overall sample on a monthly (30.7%) and weekly basis (47.1%). However, after alcohol, cigarettes (6.8%) and cannabis (5.7%) were the most frequently used substances monthly.

135 students (18.4%) had used legal highs within their lifetime and they reported use of 30 different legal high substances. The most frequently reported legal highs were “poppers” (26.9%) and nitrous oxide (42.3%), referred to as “laughing gas”. From this point onwards in the analysis, scores on the alcohol items were not included when calculating total scores for the ASSIST. This step was taken so that ASSIST scores would reflect drug use only. ASSIST and AUDIT scores were significantly correlated at $r = .50$, $p < .001$.

3.3.3 Need for Popularity

Across the overall sample students had low need for popularity scores, with a median score of 17.00 out of 60 (IQR = 10). A moderate significant positive correlation was observed between AUDIT score and need for popularity ($\rho = .30$, $p < .001$), with students who possessed a greater desire for popularity tending to have higher AUDIT scores. When students were grouped into the four AUDIT categories, significant differences were observed in need for popularity scores ($H(3) = 59.82$, $p < .001$). Focused comparisons revealed that low risk students had significantly lower need for popularity scores (Mdn = 14.00, IQR = 7) than those in the hazardous (Mdn = 18.00, IQR = 9, $p < .001$, $r = -.22$) harmful (Mdn = 19.00, IQR = 13, $p < .001$, $r = -.31$) and probable dependence categories (Mdn = 20.00, IQR = 12, $p < .001$, $r = -.36$). No other significant differences in need for popularity scores were identified when comparing hazardous, harmful and probable dependence AUDIT categories.

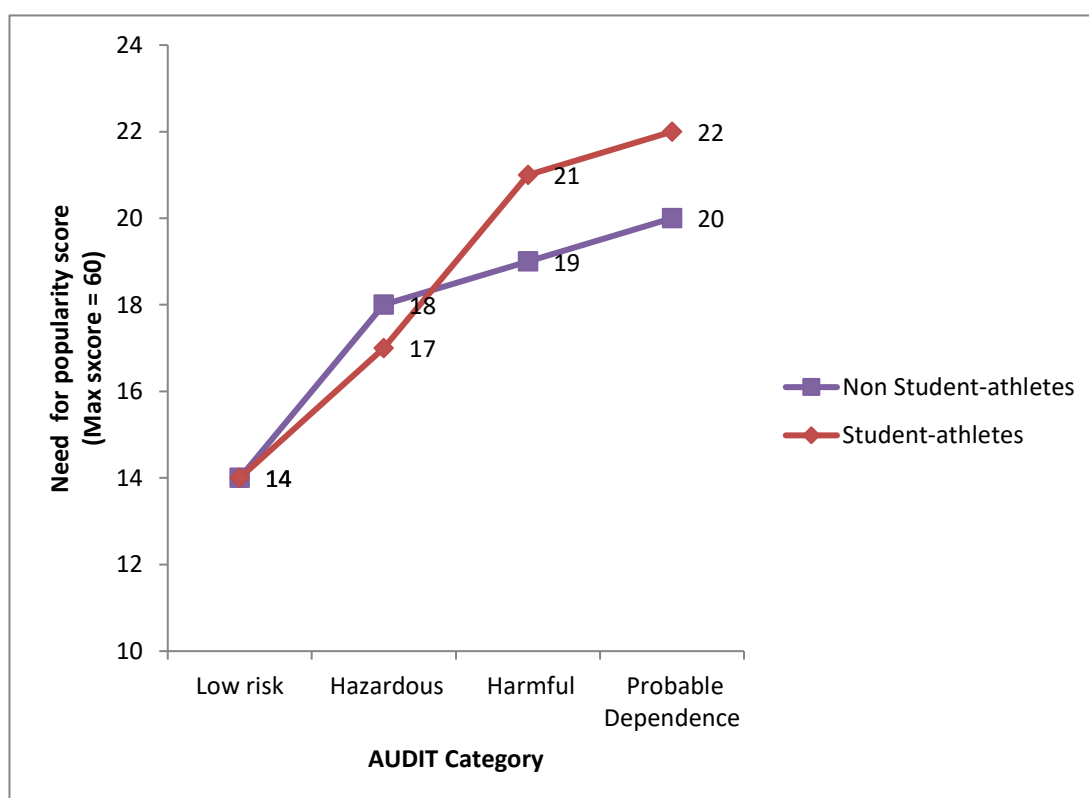
Due to the significant difference in need for popularity scores across the four AUDIT categories, regression analysis was undertaken to ascertain whether need for popularity was an independent predictor of AUDIT score when other variables were accounted for. First-order associations were observed between AUDIT score and the following 13 variables: gender, age, ethnicity, living arrangements, religion, marital status, course and level of study, employment status, registration status, membership of a social society, legal high use, ASSIST score and need for popularity score. These variables were entered into the regression model; however, eight of the variables were not independent predictors of AUDIT score. Thus, living in halls of residence, living with student friends, following the Muslim religion, legal high use, ASSIST score and need for popularity were included in the final model (Table 2). This final model significantly predicted AUDIT scores ($F(6, 704) = 59.97$, $p < .001$) and explained 33.3% of the variance in AUDIT score (Adjusted $R^2 = .33$). Independently, need for popularity predicted 7.3% of the variance in AUDIT scores (Adjusted $R^2 = .073$).

Table 2. Final Regression Model Need for Popularity*AUDIT

	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>Sig.</i>
<i>Constant</i>	3.814			
<i>Need for Popularity</i>	.173	.026	.205	.000
<i>ASSIST Score</i>	.219	.022	.359	.000
<i>Lifetime legal high use</i>	1.984	.555	.129	.000
<i>Living in Halls of Residence</i>	1.996	.524	.130	.000
<i>Living with student friends</i>	2.131	.412	.176	.000
<i>Religion – Muslim</i>	-6.875	1.368	-.155	.000

When students were grouped by their sporting status (athlete or non-athlete) and AUDIT category, significant differences were identified in need for popularity scores (Kruskall-Wallis $H(7) = 64.91, p < .001$). Low risk drinkers who do not participate in sport had significantly lower need for popularity scores (Mdn = 14.00, IQR = 7) than student-athletes who drink alcohol at harmful (Mdn = 21.00, IQR = 10, $p < .001, r = -.34$) and probable dependence levels (Mdn = 22.00, IQR = 14, $p < .01, r = -.28$). Also, student-athletes who were low risk drinkers had significantly lower need for popularity scores (Mdn = 14.00, IQR = 7) than student-athletes who drink alcohol at harmful levels (Mdn = 21.00, IQR = 10, $p < .01, r = -.52$) and student who do not play sport but drink at probable dependence levels (Mdn = 20.00, IQR = 11, $p < .01, r = .43$). To offer a visual perspective, the need for popularity scores by AUDIT category are shown in Figure 4 for both students and student-athletes.

Figure 4. Need for popularity scores by AUDIT category and sporting status



3.3.4 Social Belonging

Overall, students had high levels of social belonging, with a median score of 24.00 out of 30 (IQR = 5). A low but significant correlation was recorded between AUDIT score and social belonging ($\rho = .28, p < .001$), with students' levels of social belonging increasing as AUDIT score increased. When students were grouped by the four AUDIT categories, significant differences were noted in social belonging scores ($H(3) = 37.92, p < .001$). Focused comparisons revealed that students categorised as low risk drinkers had

significantly lower social belonging scores (Mdn = 23.00, IQR = 5) than those categorised as hazardous (Mdn = 24.00, IQR = 4, $p < .001$, $r = -.18$), harmful (Mdn = 25.00, IQR = 4, $p < .001$, $r = -.28$) and probable dependence (Mdn = 25.00, IQR = 4, $p < .001$, $r = -.25$). There were no other significant differences in social belonging scores across the AUDIT categories (i.e. hazardous, harmful & probable dependence).

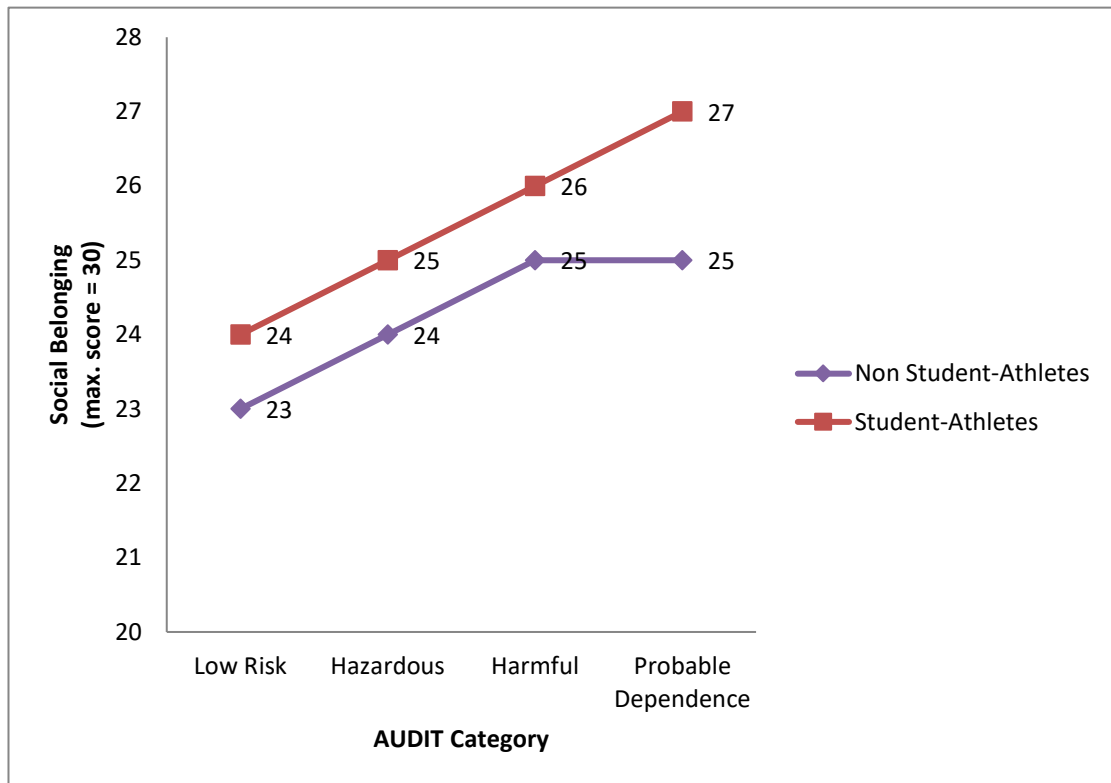
Given the significant difference in social belonging scores of students in the four AUDIT categories, it was deemed appropriate to proceed with regression analysis to investigate whether AUDIT score was an independent predictor of social belonging when other variables were controlled for. During preliminary analyses 12 variables were associated with social belonging at $p < .10$; AUDIT score, ASSIST score, age, living arrangements, marital status, social society membership, registration status, gender, religion, sexuality, legal high use and course and level of study. These variables were entered into the regression model; however, nine of the 12 variables were not independent predictors of social belonging. Thus, AUDIT score, social society membership and living with student friends were included in the final model shown in Table 3, which significantly predicted social belonging ($F(3, 686) = 35.82$, $p < .001$) and explained 13.2% of the variance in social belonging (Adjusted $R^2 = .132\%$). Independently, AUDIT score explained 6.3% of the variance in social belonging (Adjusted $R^2 = .063$).

Table 3. Final Regression Model AUDIT*Social Belonging

	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>Sig.</i>
<i>Constant</i>	21.829	.256		.000
<i>AUDIT</i>	.121	.020	.215	.000
<i>Social society membership</i>	1.233	.324	.136	.000
<i>Living with student friends</i>	1.529	.246	.225	.000

When students were grouped by their sporting status (athlete or non-athlete) and AUDIT category, there were significant differences in social belonging scores (Kruskal-Wallis, $H(7) = 51.77$, $p < .001$). Students who did not play sport and were categorised by the AUDIT as low risk drinkers possessed significantly lower social belonging scores (Mdn = 23.00, IQR =) than student-athletes who were categorised as hazardous (Mdn = 25.00, IQR = , $p < .001$, $r = -.32$), harmful (Mdn = 26.00, IQR = , $p < .01$, $r = -.30$) and dependent drinkers (Mdn = 27.00, IQR = , $p < .01$, $r = -.26$). The social belonging scores of both non-athletes and athletes by AUDIT category are shown in Figure 5.

Figure 5. Social belonging scores by AUDIT category and sporting status



3.4 Discussion

Overall, the present study found that university students were consuming hazardous levels of alcohol, in line with previous UK research (Heather et al., 2011). Several 'at risk' groups were identified due to their patterns of alcohol use, lending support to previous research: first year undergraduates (Bewick et al., 2008), students living in halls or with student friends, male students (Wicki et al., 2010) and student-athletes (Zhou & Heim, 2014).

The present study identified positive relationships between alcohol consumption and alcohol-related risk, social belonging and need for popularity. Consistent with the main hypotheses of this study, students who were drinking at hazardous, harmful and probable dependence levels reported a greater sense of social belonging and need for popularity than low risk drinkers. There were no significant differences in social belonging or need for popularity between the students who were categorised as hazardous, harmful and probable dependent drinkers. These findings support previous research from the US and Canada, where social belonging was associated with drinking to get drunk (McNeely & Falci, 2004) and need for popularity was linked to beer consumption (Santor et al., 2000).

Regression analysis subsequently revealed that the need for popularity was a significant predictor of alcohol consumption and associated risk as measured by the AUDIT.

Furthermore, alcohol consumption and related harm was a significant predictor of social belonging among students. These findings support previous qualitative research which has indicated that social belonging may be a positive consequence associated with drinking with peers (Christmas & Seymour, 2014).

With regard to student-athletes, results highlighted the hazardous drinking behaviour of athletes involved in university and in particular team sport. These findings are consistent with previous research in the UK (Partington et al., 2013; Zhou, Heim, & O'Brien, 2015). Of the student-athletes who took part in this study, those who train and regularly compete in their chosen sport were found to drink at higher levels than non-competitive members of university sports clubs (i.e. coaches, training only members). Previous research has suggested that student-athletes who regularly compete in their chosen sport drink at higher levels because they are the most immersed in their sporting culture and are frequently exposed to peer or teammate influences (Martens et al., 2006).

As seen in the overall sample, similar positive relationships were identified between alcohol consumption and associated risk as measured by AUDIT, and need for popularity and social belonging among the student-athletes. However, it appears student-athletes seem to be able to access higher levels of social belonging the more alcohol they consume, with student-athletes who were drinking at levels associated with probable dependence being rewarded with the highest social belonging scores. This may be because excessive alcohol use, although not accepted by wider society, is condoned within sporting culture (Green, Nelson & Hartmann, 2014). The findings pertaining to student-athletes within this study suggest that the social context and culture within team sport need to be explored further in relation to alcohol.

This study is not without its limitations. Firstly, all data were gathered using self-report measures. Self-report measures of alcohol consumption and associated harm are particularly prone to impression management bias, especially among undergraduate students, which can lead to under estimates of dangerous alcohol use (Davis et al., 2010). The need for popularity and social belonging subscales may also have been prone to social desirability bias, with students reluctant to admit to feelings of not belonging or that they alter their behaviour to be viewed as popular. Secondly, a note of caution must be offered regarding the classification of student's AUDIT scores into the four risk categories, namely that this classification procedure was carried out based upon the completion of the AUDIT on a single occasion. Whilst the AUDIT is a highly regarded screening tool, it is likely that an individual student's alcohol consumption will not remain static, influenced by academic, environmental and social factors over the academic year (El Ansari et al., 2013; Merrill &

Carey, 2016). There are also well-documented debates within the literature regarding preferred 'cut-offs' for the AUDIT, AUDIT-C and AUDIT risk categories, which highlight the need to consider the population being studied and the setting in which the AUDIT is administered (Babor et al., 2001; Babor & Robaina, 2016; Reinert & Allen, 2007). Thirdly, all participants were volunteers from one university, thus it is likely they are not representative of the student population. The majority of the participants in this study were White British students and perhaps were also students who were motivated to describe their social experiences or alcohol intake. Despite these limitations, online surveys are acknowledged as producing comparable estimates of alcohol use as paper questionnaires (McCabe et al., 2006) and gathering more detailed and comprehensive responses than paper methods (Schaefer and Dillman, 1998).

The present study contributes to the literature on student drinking behaviour and indicates that exploring positive social factors may yield important information about the allure of drinking at high levels despite the potential risks. Drinking alcohol may be seen by students as a means by which they can achieve popularity and develop a sense of belonging. These results suggest that rather than focusing on the negative health consequences of drinking, interventions targeted at students need to focus on dissuading students from the belief that hazardous and harmful drinking is necessary for social success. As previous researchers have suggested, whilst excessive alcohol consumption is associated with such positive social consequences reducing student drinking may be a difficult task (Norman et al., 2012).

To conclude, UK students are continuing to drink alcohol at hazardous levels and student-athletes in particular appear to be an at-risk group. Social factors, in the form of social belonging and a need for popularity may offer a partial explanation as to why. However, in reality these relationships are likely to be complex and culturally situated. To move forward within this programme of research, there is a need to explore the relationships between alcohol consumption, social belonging and popularity within the context of students' social experiences. There is also the need to ascertain whether students are aware of these relationships and if they actively use alcohol as a strategy to gain social belonging or popularity. Therefore, the next study within this thesis should adopt an approach which can provide a means to understand these relationships further, whilst allowing for complexity.

Chapter 4 - Study 2: Student-athlete drinking culture: The social experiences of content and conflicted drinkers

4.1 Introduction

The findings from study one identified hazardous levels of alcohol consumption in a sample of UK university students. Within study one, a potential social motive (need for popularity) and a potential social consequence (social belonging) were explored in relation to student alcohol consumption and alcohol-related harm. Significant positive relationships were found to exist between each of these social factors and levels of alcohol consumption, with need for popularity predicting alcohol consumption and alcohol consumption predicting levels of social belonging.

Whilst study one established that there are relationships between need for popularity, social belonging and alcohol consumption, it is not known from this study what such relationships looks like in practice, nor how they are operationalised within students' day to day, real world lived social experiences. In particular, the results of study one did not capture whether students are consciously aware of these relationships and if so, how such awareness may shape their decision making in relation to their alcohol behaviour.

To address these issues, it was necessary to adopt a methodology in this study which allowed the researcher to seek a further explanation for the quantitative findings in study one. In an explanatory sequential mixed methods design, a qualitative strand is used to provide a further explanation for initial quantitative results (Creswell & Plano Clark, 2017). Qualitative research is able to build a detailed understanding of a complex problem or situation, focusing on the context, processes and meaning for individuals and gives voice to different perspectives (Creswell, Klassen, Plano Clark, & Smith, 2011; Creswell & Plano Clark, 2017). For those reasons it was decided that study two would adopt a qualitative approach.

To conduct a qualitative research study, it is necessary to narrow the number of participants of interest, which is known to sacrifice breadth and generalisability for depth (Creswell & Plano Clark, 2017; Patton, 2015). As a result, participants are often selected according to the aims of the overall study and their experience of the phenomenon or concept being studied, referred to as purposeful sampling (Creswell & Plano Clark, 2017; Patton, 2015). The logic and power of purposeful sampling is in the selection of information-rich cases, which are individuals, groups or members of a subculture, who have specific characteristics

and knowledge of the phenomenon of interest (Patton, 2015; Smith & Caddick, 2012; Smith & Sparkes, 2013).

In an explanatory sequential mixed methods design, quantitative findings can be used to guide purposeful sampling and identify information-rich cases (Creswell & Plano Clark, 2017). The findings from study one indicated that one particular group of students, student-athletes, were an 'at risk' group for hazardous and harmful alcohol consumption. Student-athletes consumed alcohol at significantly higher levels than students who were not athletes. In addition, the relationships between alcohol consumption, social belonging and need for popularity were more salient among student-athletes than students in general. Furthermore, those athletes who participated in team sports had the highest scores on the AUDIT when compared to student-athletes who competed in individual sports (i.e. swimming/athletics).

For the purposes of the current study, it was decided that student-athletes who participate in team sports could provide information-rich cases through which to explore the relationships between alcohol consumption, social belonging and popularity. The following review therefore details what is currently known about the sub-culture of student-athletes, student-athlete alcohol consumption and most importantly the potential role of social factors in the alcohol consumption of student-athletes.

4.1.1 Student-athlete sub-culture

In the UK more than a third of university students are involved in a sports club or organisation (Sport England, 2014). The British Universities and Colleges Sport (BUCS) programme reports that there are over 100,000 students who regularly compete in 50 different sports. Higher education has been intrinsically linked to success at the Olympics, with 61% of the Team GB athletes who have won a medal over the last twenty years having attended university (UK Universities, 2012). As a result, young athletes are being encouraged to pursue higher education to gain access to excellent sporting facilities and acquire employability skills to widen their career prospects, with many being supported via educational scholarships (UK Universities, 2012).

Whilst at university, student-athletes experience a unique social and academic environment which involves the simultaneous management of academic demands and sporting commitments with little time for other activities or contact with individuals who are not related to sport (Martens, Dams-O'Connor, & Beck, 2006). Student-athletes have been found to display distinct patterns of behaviours which distinguish them from general university students. Previous research has highlighted for example, the physical demands

of students' sporting commitments and their aggressive pursuit of sporting achievement at the cost of academic performance (Cosh & Tully, 2014; Miller & Kerr, 2002). Student-athletes have described "just doing enough to pass" and sacrificing their educational achievement to prioritise sport when faced with time constraints (Cosh & Tully, 2014, p. 187). Student-athletes have also been found to wear distinct clothing around campus and to commit to a jock lifestyle that sets them apart from their student peers (Sparkes, Partington, & Brown, 2007). The jock lifestyle and identity are associated with masculine norms, aggression, occupying positions of power and risk-taking behaviour such as high levels of alcohol use (Miller & Hoffman, 2009; Smith et al., 2010; Sparkes et al., 2007).

4.1.2 University sport and alcohol consumption

The problematic alcohol consumption of university or college athletes has been the focus of research for over three decades (Zhou & Heim, 2014). Whilst participation in physical activity has been found to be a protective factor for alcohol use, participation in sport in a formal context is not and in fact may be a risk factor for harmful and hazardous drinking (Martens et al., 2006). Individuals who participate in university sport are consistently found to engage in more hazardous alcohol behaviours than their non-athlete student peers, including consuming greater quantities of alcohol, drinking more frequently and engaging in binge or heavy episodic drinking. (Martens, Dams-O'Connor, et al., 2006; Nelson & Wechsler, 2001; Partington et al., 2013; Zhou & Heim, 2014).

When compared to students who volunteered or participated in other clubs at university, students involved in sports clubs were more likely to; i) drink at home before a night out, ii) drink in their student's union bar or nightclub at least once per week, iii) participate in drinking games, iv) hold the belief that getting drunk was important to have a good night out, and v) go out with the intention to get drunk at least once per week (National Union of Students, 2016). The relationship between participation in organised sport at university and binge drinking, is a relationship which holds across race and gender (Green, Nelson, & Hartmann, 2014; O'Brien, Blackie, & Hunter, 2005). This relationship also extends beyond time of active engagement in a sport, in that former student-athletes have been found to continue drinking at high levels after they have ceased sports participation (Green et al., 2014).

Previous research has explored whether the level of participation (i.e. elite/amateur) and type of sport (i.e. team/individual) influences the relationship between university sport and high levels of alcohol use. For example, in New Zealand, university students who participated in elite regional and international sport reported higher rates of hazardous drinking than non-elite sports people and non-sport people (O'Brien et al., 2005). However,

there were no differences in alcohol consumption and associated harm between student-athletes in the UK who were competing at intramural, varsity or national/international levels (Partington et al., 2013).

Heavy episodic drinking has been found to be positively related to practising team sports and negatively related to individual sports and martial arts (Martha, Grelot, & Peretti-Watel, 2009). Students from UK universities involved in team sports were found to drink significantly more and be at greater risk for alcohol-related harm than members of individual sports (Partington et al., 2013). However, there is contradictory evidence regarding which sports are associated with higher or lower alcohol use. Martens, Watson, and Beck (2006) reported that swimmers and divers were the highest drinkers in their sample of US college athletes. The lowest levels of alcohol consumption were found among track and field athletes (Martens, Watson, et al., 2006). Whereas, Ford (2007) reported that male hockey and female soccer players had the highest levels of substance use (alcohol and marijuana). Male soccer and basketball players, male and female track athletes, and male and female swimming and diving athletes had lower levels of substance use (Ford, 2007).

The contradictory evidence observed could be explained by sport specific patterns of social behaviour, where swimmers and divers within Martens, Watson, et al. (2006) study, who compete in their chosen sport individually, described socialising and partying together as a swim team. Overall, the mixed findings regarding which sports are associated with increased alcohol use suggest that different sports teams or clubs may have different normative cultures, including accepted levels of alcohol consumption and whether they promote or condone substance use (Ford, 2007; Martens, Watson, et al., 2006; Smith et al., 2010).

4.1.3 Existent explanations for student-athlete alcohol consumption

Excessive drinking by student-athletes is somewhat paradoxical, given the negative impact on sport performance. For example, alcohol-related injuries are particularly problematic for student-athletes because the injury is both a health risk and a potential risk to sporting performance or a future athletic career (Howell, Barry, & Pitney, 2015). Student-athletes also risk the loss of scholarship funding and increased public scrutiny due to their visibility on campus (Williams Jr et al., 2006). Hazardous and harmful alcohol consumption is also seemingly counter intuitive to the training regimes, strength and conditioning session and nutrition programmes in which student-athletes engage.

Whilst previous research has documented the extent of problematic alcohol use amongst student-athletes, research exploring why student-athletes are the heaviest drinkers on

campus, is at best limited (Martens, 2011). The possible explanations which have been suggested so far can be categorised within five broad themes.

Firstly, the implicit, longstanding relationship between sport and alcohol (Clayton & Harris, 2008; Groves, Griggs, & Leflay, 2012). There are cultural links between alcohol and sport, including alcohol consumption as a leisure activity when watching sport and alcohol sponsorship of sporting events or sport teams (Groves et al., 2012; Vamplew, 2013). Secondly, athletes may use alcohol to cope with sport-related pressures and to manage associated anxiety or stress (Ford, 2007; Smith et al., 2010; Vamplew, 2013). Student-athletes in particular may experience considerable stress and pressure due to their dual role as both a student and an athlete, and may use alcohol to cope with such sporting and academic pressures (Martens, 2011).

Thirdly, student-athletes are thought to have personality traits which are associated with higher levels of alcohol use (Martens, 2011). For example, student-athletes who engage in more frequent episodes of heavy drinking have been found to have higher sensation seeking scores than non-athletes (Yusko, Buckman, White, & Pandina, 2008). Fourthly, young athletes may believe that they are immune to negative effects of alcohol due to their athletic training regimes and their resultant high levels of physical fitness (Vamplew, 2013). Previous research has also suggested that athletes fail to understand or consider the impact that heavy alcohol use may have on their training and athletic development (Nelson & Wechsler, 2001). Finally, and of most relevant to this thesis, previous research has suggested that aspects of the sociocultural environment and team-orientated social motives may explain student-athlete drinking behaviour (Clayton & Harris, 2008; Martens, 2011; Sparkes et al., 2007; J. Zhou et al., 2015). Those social factors will be reviewed now in more detail.

4.1.4 Social explanations for student-athlete alcohol consumption

It has been widely recognised that student-athletes function within a different social environment at university to their non-athlete peers (Nelson & Wechsler, 2001; Tewksbury, Higgins, & Mustaine, 2008). For example, student-athletes have been found to have a larger number of friends and are considered more socially connected than students who are not athletes (Nelson & Wechsler, 2001). On campus, student-athletes are often afforded elevated social status due to their athletic prowess (Martens, Dams-O'Connor, et al., 2006) and this status can lead to more social opportunities, including invitations to parties and other alcohol focused social events, and a willingness on the part of peers to buy or supply alcoholic drinks (Martens, 2011).

Social events after sports matches at university are typified by excessive drinking, drinking forfeits and streaking (Sparkes et al., 2007). Hazing and initiation ceremonies are common practice in university or collegiate sport, which are often characterised by excessive alcohol consumption, humiliation, nudity, task performance and physical and psychological abuse (Clayton, 2013; Clayton & Harris, 2008; Groves et al., 2012). Throughout the academic year, student-athletes also occupy specific drinking environments on campus, such as the college bar or students' union. Curry (1998) reported that the college bar offered an arena where athletes could display aggressive and sexual behaviour, and free alcoholic drinks were often available. Clayton and Harris (2008) labelled the student bar as the male university football players "masculinist home" (p320).

Alcohol consumption and associated behaviour have been linked with team bonding and cohesion among student-athletes (Clayton & Harris, 2008; Taylor, Ward, & Hardin, 2017; Zhou, O'Brien, & Heim, 2014). In a study involving UK student-athletes, Clayton and Harris (2008) described that if football provided the rationale for the men's friendship then alcohol consumption was the method through which these friendships were formed. Within team sport, in this case football, alcohol consumption was a central component of the team's shared leisure time, and post-match drinking provided an opportunity for group bonding (Clayton & Harris, 2008). Moreover, among another sample of UK student-athletes who participated in different sports, Zhou, O'Brien & Heim (2014) identified that team cohesion was a significant predictor of alcohol consumption and mediated the relationship between student-athlete's happiness and alcohol consumption. Similar observations have also been noted among athletes in general, for example Australian elite and amateur athletes, and female roller derby athletes from the US, reported that heavy alcohol use was a tool for ensuring social cohesion and drinking together as a team was an important part of team bonding (Donnelly, 2013; Smith et al., 2010).

Previous research has also highlighted the importance of social and athletic identity in the alcohol consumption of student-athletes (Zhou & Heim, 2016; Zhou, Heim, & Levy, 2015; J. Zhou et al., 2015). For example, Zhou, Heim & Levy, (2015) reported that among a sample of UK student-athletes, social identity was positively associated with alcohol consumption, whereas an athletic identity was associated with lower levels of alcohol use. In a subsequent qualitative study, Zhou and Heim (2016) demonstrated that drinking behaviours among team student-athletes were underpinned by social identity processes, whereby alcohol use and alcohol-related activities were driven by motives relating to group dynamics and the effective social functioning of the team. Of importance, this study emphasises the significance of the sports team as a social group, which influences the alcohol consumption of each group member, however previous research does not appear

to have examined the social experiences of student-athletes who belong to such a group and how their alcohol decision making is influenced.

It is clear that sports teams or clubs provide an established and extensive social group or network which facilitates alcohol use (Martens, 2011). Sports clubs are more intense and formalised versions of the drinking groups which occur on university campuses, with much more clearly defined social structures and behaviours (Christmas & Seymour, 2014). The sports team or club to which a student belongs may provide a social setting that provides an opportunity to consume alcohol, promotes or condones hazardous and harmful alcohol use and may cut student-athletes off from engaging in alternative social structures and groups (Ford, 2007).

Within such isolated subcultures, behaviours that are not usually accepted by wider society may be permitted and normalised (Green et al., 2014). Some sports teams may place pressure on team members to conform to the alcohol norms of the group and the individual student-athlete may engage in a prescribed level of alcohol use to avoid negative sanctions by their teammates (Ford, 2007). Valued group dynamics such as team cohesion and team identity may also serve to 'justify' the excessive consumption of alcohol within sports teams.

Within such social contexts, it is perhaps not surprising that athletes have been found to be highly susceptible to the influence of teammates. For example, Vest and Simpkins (2013) identified that athletes were more likely to use alcohol if their sporting friends and teammates had higher levels of alcohol consumption, whereas the influence of non-athlete friends was modest in comparison. The forgiving attitude towards alcohol and behaviour of teammates may be further reinforced as student-athletes are thought to experience social isolation, where they spend the majority of their time with teammates or other athletes rather than students in the wider university social group (Ford, 2007).

Of direct relevance to the current study, former student-athletes have reported that they were motivated by social approval to engage in unhealthy behaviours such as binge drinking and hazing in order to gain acceptance from their teammates (Waldron & Krane, 2005). Such findings led Waldron and Krane (2005) to propose that the desire for continued recognition by their teammates and a fear of loss of status may drive many student-athletes to engage in risky alcohol behaviours.

In summary, it is clear that student-athletes are members of a unique sub-culture on university campuses who demonstrate specific patterns of behaviour including excessive alcohol consumption. Previous research has focused on describing the characteristics which may influence the relationship between alcohol consumption and university sport

participation, including sport type and level of participation (Ford, 2007; Martens, Watson, et al., 2006). Yet, research which explores the possible explanations for why student-athletes drink heavily is limited (Martens, 2011). Where social factors have been considered, research has been focused on the intense, isolated social network to which student-athletes belong and on team orientated social motives for alcohol behaviour such as team bonding and social identity.

Across existent research, there is an overall consensus that social processes are of importance when explaining student-athlete alcohol behaviour (Zhou & Heim, 2014). However, further research which focuses on specific social questions is needed. For example, there is a limited understanding of the social experiences of student-athletes within this culture and the underlying social mechanisms which are likely to govern their alcohol consumption (Green et al., 2014). Previous research has suggested that some sports teams condone and endorse alcohol use, however further research is need to explore the culture and social context of alcohol use within sport teams, including how such messages are constructed and communicated (Nelson & Wechsler, 2001; Tewksbury et al., 2008). Furthermore, as observed with students in general, research studies have focused on the negative outcomes student-athletes are likely to encounter when drinking at high levels rather than the positive social consequences of alcohol use (Zhou et al., 2014).

In order to address the gaps in the knowledge base, researchers such as Green et al. (2014), have suggested that future research should adopt a qualitative method to allow for an exploration of the drinking culture within university sports teams and to provide a detailed description of the drinking rules, norms and values present within university sports culture. A qualitative enquiry will also afford the opportunity to examine student-athletes' awareness of social motives and consequences such as social belonging and popularity, and whether alcohol consumption is deliberately used to secure these social benefits.

The aims of this study are, therefore, to explore the role of alcohol in the social world of the student-athlete and to capture more in-depth information on the relationships between alcohol, social belonging and popularity identified in study one. This will include exploring unanswered questions about whether students are aware of these relationships, if they are, how does this awareness influence their drinking behaviour, and also what impact does abstinence have on feelings of belonging and popularity.

The main aims of study two were as follows:

- To explore the team sport drinking culture, including the social structure, rules and values associated with alcohol use.
- To capture and compare the lived social experiences of student-athletes who consume different amounts of alcohol, including associated social benefits and costs, and how this influences students' decisions around drinking behaviour.
- To ascertain student-athletes' perceptions of their own and other's drinking, asking what do those who drink at different levels think about others and how are non-drinking athletes perceived by those that drink at high levels.

4.2 Method

4.2.1 Design

The research questions posed in this study are primarily focused around student-athletes' social experiences involving alcohol. This study seeks to develop an understanding of the role that alcohol, social belonging and popularity, may play within the complex social world of team sport subculture. In addition, an understanding is sought around student athletes' awareness of the relationships between alcohol and these specific social factors and how such awareness may shape their decision-making in relation to alcohol behaviour.

A qualitative research perspective is well suited to research questions of this nature because it acknowledges and embraces the fact that people's lives, societies and cultures are complex (Smith & Caddick, 2012). Qualitative research also focuses on the individual's interpretations and subjective meanings which are derived from their culture, including exploring their behaviours, perspectives and experiences (Smith & Caddick, 2012; Smith & Sparkes, 2013). Qualitative methods further allow researchers to gain an in depth understanding of individuals' interpretations of psychological constructs (Moran, Matthews, & Kirby, 2011).

The data was approached with these research questions in mind and knowledge of the motivational model as outlined in Chapter two. Critical realists propose that the world is theory-laden but not determined by theory (Fletcher, 2017). Thus, researchers who adopt a critical realist perspective often study problems or questions which have been guided by theory (Fletcher, 2017). However, critical realists are of the opinion that existing theories are fallible and open to revision (O'Mahoney & Vincent, 2014). As demonstrated in Chapter two, the motivational model provided an initial framework through which to structure a

literature review and served as a guide for the quantitative relationships in study one. However, the existing motivational model did not acknowledge the consequences which arise after consuming alcohol and how such consequences may influence alcohol use in future.

In keeping with philosophical stance of critical realism, the qualitative data within this study was analysed using abduction. Abduction combines inductive and deductive thinking, moving between coding participant's observations and returning to theory to identify the mechanism that caused the observed events (Fletcher, 2017; O'Mahoney & Vincent, 2014; Patton, 2015). To accommodate this approach to the data, careful consideration was given to the method of qualitative data analysis. There are many different ways of analysing qualitative data, some analysis strategies focus upon the language used by participants (discourse analysis) or the manner in which they tell their story (narrative inquiry), whereas other methods look to quantify the topics discussed (content analysis), achieve an understanding of a phenomenon whilst focusing on the unique characteristics of individuals (interpretative phenomenological analysis) or generate theories from the data collected (grounded theory) (Smith & Caddick, 2012; Sparkes & Smith, 2014).

Whereas, thematic analysis is a method for systematically identifying, organising, analysing and reporting patterns of meaning (themes) across a data set (Braun & Clarke, 2006, 2012). Thematic analysis enables the development of a rich thematic description of the data and the opportunity to make sense of collective or shared meanings and experiences (Braun & Clarke, 2012). When compared to other methods of qualitative data analysis, thematic analysis is praised for being suited to a wide range of research topics and research questions, with the ability to summarise large bodies of data and highlight similarities and differences across the data set (Braun & Clarke, 2012; Braun & Clarke, 2013; Sparkes & Smith, 2014). Furthermore, thematic analysis permits both social and psychological interpretations of data (Sparkes & Smith, 2014) and does not follow a strict linear model, instead engaging in a recursive process and frequently reviewing one's interpretation at each stage (Braun & Clarke, 2014; Vaismoradi, Turunen & Bondas, 2013). Above all, thematic analysis is a theoretically flexible approach which allows for analysis along the induction and deduction continuum (Braun & Clarke, 2012) (Braun & Clarke, 2013). Therefore, thematic analysis was considered a consistent analysis strategy with the key elements of the research design, namely the research questions described above, the paradigm of critical realism and the use of abduction when analysing the data.

4.2.2 Participants

17 student-athletes (Mean = 20 years, SD = 1.32), 11 females and six males, were recruited from one UK University. The student-athletes were enrolled on undergraduate (N = 14) and postgraduate degrees (N = 3) studying sport, humanities and engineering-based subjects. Student-athletes from four team sports; rugby (N = 5), water polo (N = 1), netball (N = 1) and hockey (N = 10) were interviewed. The athletes represented the university in both national league and BUCS competitions. Some athletes also competed in their chosen sport for an external club or organisation (N = 8). 12 of the 17 athletes were members of the same sports teams (e.g. 4 participants were on the women's hockey first team, 3 participants were on the women's rugby first team etc.).

Participants from the four team sports were specifically targeted based on the results of study one, where mean AUDIT scores indicated high levels of alcohol consumption amongst their members (Table 4). Student-athletes who were members of these sports teams were specifically targeted using purposeful sampling. This was because information rich cases were sought, whereby social experiences could be captured from individuals within a culture or social environment where heavy and extreme drinking behaviours were the norm (Creswell & Plano Clark, 2017; Patton, 2015; Robinson, 2014). The researcher further engaged in stratified purposeful sampling (Robinson, 2014), looking to recruit athletes from across the four AUDIT risk categories, including non-drinking athletes where possible. An initial email was sent to student-athletes who had participated in study one as their AUDIT scores were known, however, there were only two athletes who responded and chose to participate in this second study. All other participants were recruited through information shared through their team captains and as the study progressed through other participants (i.e. snowball sampling) (Smith & Sparkes, 2013).

Table 4. Participant characteristics including individual AUDIT score and mean AUDIT score for team sport

Participant No	Year of Study	Sport	Position of Responsibility	AUDIT Score	Mean Team AUDIT Score
<i>P12</i>	2 nd year	Hockey	N/A	20	16.5
<i>P2</i>	Postgraduate	Hockey	Vice president, former captain	16	
<i>P4</i>	2 nd year	Hockey	Captain	16	
<i>P5</i>	2 nd year	Hockey	N/A	16	
<i>P3</i>	Postgraduate	Hockey	Former social secretary	15	
<i>P6</i>	1 st year	Hockey	N/A	15	
<i>P7</i>	2 nd year	Hockey	N/A	14	
<i>P10</i>	1 st year	Hockey	N/A	13	
<i>P9</i>	1 st year	Hockey	N/A	10	
<i>P11</i>	3 rd year	Hockey	Chair person	10	
<i>P14</i>	3 rd year	Netball	N/A	17	16
<i>P1</i>	2 nd year	Rugby	N/A	20	16
<i>P15</i>	2 nd year	Rugby	N/A	15	
<i>P16</i>	1 st year	Rugby	N/A	14	
<i>P17</i>	Postgraduate	Rugby	N/A	14	
<i>P13</i>	1 st year	Rugby	N/A	13	15
<i>P8</i>	2 nd year	Water polo	N/A	6	

4.2.3 Materials

Prior to interview, participants were asked general demographic questions about their age, gender, ethnicity, religion, degree course, year of study and living arrangements, as well as questions about their sport participation (Appendix 1). The 10-item Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993) was used to measure alcohol consumption and the consequences of hazardous and harmful drinking (Appendix 2). Participants can be categorised into four groups using their score out of 40; low risk (0-7), hazardous (8-15), harmful (16-19) and probable dependence (20+).

An interview guide containing a series of open questions was created specifically for this piece of research (Appendix 11). The interview guide was developed by reviewing previous qualitative literature in the domains of substance misuse, sport and exercise psychology and sociology of sport such as Dodd et al. (2010). A pilot interview was conducted with a postgraduate student, who had been a student-athlete for the previous four years and was of a similar age to participants (23-year-old Netball player, with an AUDIT score of 9). Upon completion of the pilot interview, minor question modification and refinement took place. For example, a question focusing on the participant's understanding of social belonging was deemed too abstract and instead was revised to ask how much the individual felt they belonged to or fitted in within their sports team. A small wording change was made to another question which originally asked participants to share their thoughts on other team

members who drank more or less alcohol than their personal current intake. The question was revised to ask for the participant's thoughts, feelings and behaviours towards others who drank at a different level to themselves.

The final interview schedule, as directed by Patton (2015), was designed to be logical in enquiry and had three sections (Appendix 12). The initial section included general questions to encourage the participant to feel at ease and build a rapport, for example asking participants to describe their social activities and experiences of competing in university sport. The second set of questions focused upon the process of becoming part of the team and maintaining involvement in the team over time, feelings of social belonging and popularity within the team. The final section involved questions focused on the role of alcohol in their team sport, including the role of alcohol in becoming part of the team, the influence of alcohol on their social experiences with their teammates and their perceptions of other's alcohol behaviour.

4.2.4 Procedure

Following institutional ethical approval, the researcher contacted staff and team coaches from the university's sport organisation to obtain permission to approach eligible student-athletes. University sport staff and team coaches provided the contact details for team captains, who acted as gatekeepers circulating information about the research to their team. A written outline of the research was included in the email (Appendix 13), emphasising that participation was voluntary. No incentive or inducement was offered.

The interviews took place during spring term, in a quiet classroom on university premises. This location was chosen because it was familiar to the student-athletes yet out with the environment in which teammates and other athletes might spend their time (i.e. sports buildings, gym, student's union etc.). Interviews were arranged at a time convenient for the athlete. All interviews were conducted by the same researcher, a female in her late 20's. The interviews were all audio recorded. Prior to beginning the interview, the researcher introduced herself and provided a brief verbal and written explanation of the topics to be discussed (Appendix 14). Participants were invited to ask any questions or highlight any concerns. If the participants were happy to proceed they were invited to sign two informed consent forms, one regarding general participation (Appendix 15) and the other to agree to audio recording of the interview (Appendix 16). All participants were assured that any information discussed and recorded would remain confidential. The researcher explained that a non-judgemental approach would be adopted throughout, with the focus on personal experience, where there were no right or wrong answers to questions asked.

The interview guide was followed in a semi-structured manner allowing the researcher to direct the interview using pre-determined open questions, however altering the ordering of questions as guided by participants' responses. The use of a semi-structured approach permitted a balance between the researcher ensuring all pertinent questions were covered during each interview and providing each student-athlete with the opportunity to describe their experiences (Patton, 2015; Smith & Sparkes, 2013). Whilst a semi-structured approach is not as open or flexible as an unstructured interview, an effort was made to adopt a conversational style and probes were used to encourage participants to elaborate on their responses (Patton, 2015; Smith & Caddick, 2012). Interviews lasted on average 64 minutes. To conclude each interview, the researcher provided each participant with a written debrief (Appendix 17). The latter contained contact details for the research team should the participants have any further questions or wish to withdraw from the study. As in study one, information was provided regarding the available support services which the student-athletes could access should they have any concerns about their current alcohol intake.

4.2.5 Data Analysis

The audio recordings produced were transferred to a password protected computer and transcribed, creating one verbatim transcript for each interview. In total, 388 pages of single-spaced text were produced. All transcripts were checked against the audio recordings for any errors and all identifiable information was removed from the transcribed text. All transcripts were imported into NVivo 10 to facilitate computer aided qualitative analysis. The transcripts were analysed using the following six phases of thematic analysis (Braun & Clarke, 2006, 2012) Braun & Clarke, 2013; Sparkes & Smith, 2014).

1. Initially, the researcher familiarised and immersed herself with the data by reading and re-reading all transcripts, during which time, any key ideas or initial observations were noted.
2. Each transcript was then systematically reviewed in turn, coding any interesting features relevant to the research questions. Across the data set, a list of the different codes was produced. Each code labelled an important feature of the data and captured both the semantic and conceptual meaning of the data. Repeated patterns across the data set were monitored and data relevant to a single code were collated. For example, where participants reported 'boat races', 'funnelling', and 'seeing a pint off', a single code labelled 'drinking challenges' was recorded.

3. As the analysis developed, potential overall themes were identified by grouping individual codes together to explain larger proportions of the data. This process involved sorting different codes into possible themes and considering the common thread or meaning which runs through the coded data. At this stage in this analysis, the researcher used colour coding and visual representations such as mind-maps and thematic maps. The researcher also searched the data set for themes, engaging in an active process where themes were constructed from similar codes within the data set. For instance, the individual codes of 'Freshers & Seniors', 'Social secretary' and 'Sporting parents' were grouped together to reflect a common theme of the 'Social structure and hierarchy'.
4. The identified themes were checked against both the entire data set and the coded transcripts. During this stage in the analysis it was noted that the student-athletes interviewed had broadly described two types of experience within their sport teams. As a result of these different perspectives, the student-athletes were categorised into two groups, which were later labelled as content or conflicted drinkers. At this stage in the analysis, the transcripts were read again in their respective groups and the motivational model was used as a framework to make sense of the different social experiences described.
5. The overall themes were then named and clearly defined to provide a complete understanding of the data. Here, the researcher aimed to establish how individual themes were able to come together as a collective data set to answer the research questions. Consideration was also given to the need for sub-themes within any large or complex themes. For example, the 'social benefits of heavy alcohol consumption' was identified as a broad and unruly theme at this stage, which was likely to benefit from adopting a sub-theme structure.
6. Finally, detailed and interesting data extracts were selected to be included in the written report. Whilst engaging in the iterative process of drafting and redrafting this thesis, the theme names, descriptions and structure were further refined to provide a clear interpretation of this large data set.

4.2.6 Data Quality

A number of measures were put in place to inform the quality of the qualitative data collected and analysed in this study. Firstly, the researcher who conducted the interviews was a trained mental health professional, having completed previous clinical training, and possessed skills in active listening, establishing rapport and systematic inquiry (Patton,

2015). The researcher's skills and previous experience demonstrate the interpersonal competence, professional practice competence and the reflective practice skills necessary for inquirer competence and credibility (Patton, 2015).

Secondly, the researcher's previous experience of self-reflection in clinical practice meant she was comfortable with engaging in a process of reflexivity. As part of the reflexive process and prior to conducting any interviews, the researcher began a process of bracketing. Bracketing is thought to identify and set aside the researcher's personal experience, assumptions and hunches which could influence the data collected (Fischer, 2009). Therefore, bracketing is thought to "mitigate the potential deleterious effects of preconceptions that may taint the research process" (Tufford & Newman, 2010, p. 80). Traditionally, bracketing originates within the phenomenological tradition. However, where a researcher feels they are an insider there is a need to bracket (Dwyer & Buckle, 2009).

Although the researcher had not been a student-athlete at the university where this study was being completed, during her time as an undergraduate student at a different university she had previously been a student-athlete participating in a team sport. Therefore, the researcher felt akin to an insider with first-hand knowledge of drinking culture within university sport teams. There are a number of methods of bracketing, including writing memos, engaging in an interview with an outside source and keeping a bracketing or reflexive journal. A bracketing journal was started in January 2016. The initial entry into the journal allowed the researcher to record her experience of being a member of a university sports team, creating a self-awareness of her role then and in the present, and examining her assumptions and perspectives on team sport drinking culture (Appendix 18). The researcher continued to add to this journal, adding notes and reflections whilst conducting the interviews, in order to maintain a reflexive stance (Tufford & Newman, 2010) and to monitor the sensitive nature of the topics discussed (Smith & Sparkes, 2013).

Thirdly, to demonstrate the reliability of the data analysis, an audit trail was kept (Smith & Sparkes, 2013). At each stage of thematic analysis, notes, findings and decision-making information was recorded. The use of NVivo 10 computer software aided this process, with separate documents being saved at many of the corresponding stages. For example, after all transcripts had been read and a large list of initial codes were created, an initial document was saved (Appendix 19) and subsequently as these codes were collated into larger themes a second document was saved (Appendix 20).

Finally, throughout the analysis process, members of the PhD supervisory team acted as 'critical friends', taking part in active discussions and challenging the meaning and

interpretation of the data, including exploring alternative explanations and encouraging reflection on the identified codes and themes. Opportunities to present this study at academic conferences also meant that the findings were scrutinised by peers and senior academics in the research field (Appendix 21) (Smith & Caddick, 2012; Smith & McGannon, 2017; Sparkes et al., 2007).

4.3 Results & Discussion

The results are presented in two sections, an initial section covering the descriptive statistics on alcohol and a second larger section reporting the main qualitative findings. Discussion, commentary and links to existing literature are given in each section.

Alcohol Consumption

All 17 of the student-athletes who participated in this second study had consumed alcohol within the last 12 months. The mean AUDIT score of the sample was 14.35 (SD = 3.46). Table 5 displays the main characteristics of participants who were interviewed including their total AUDIT score and AUDIT risk category (Low risk, Hazardous, Harmful and Probable Dependence). Four of the student-athletes were classified as harmful drinkers and two student-athletes were drinking at levels associated with probable dependence. Of note, there was only one student-athlete (Participant 8), who scored within the 'Low Risk' category. Table 5 also shows a dichotomy labelled "Type of Drinker" which is related to each participant's social experiences of drinking alcohol with their sports team and their subsequent decision-making process.

Table 5. Participant Profiles, including AUDIT score and category, and Type of Drinker

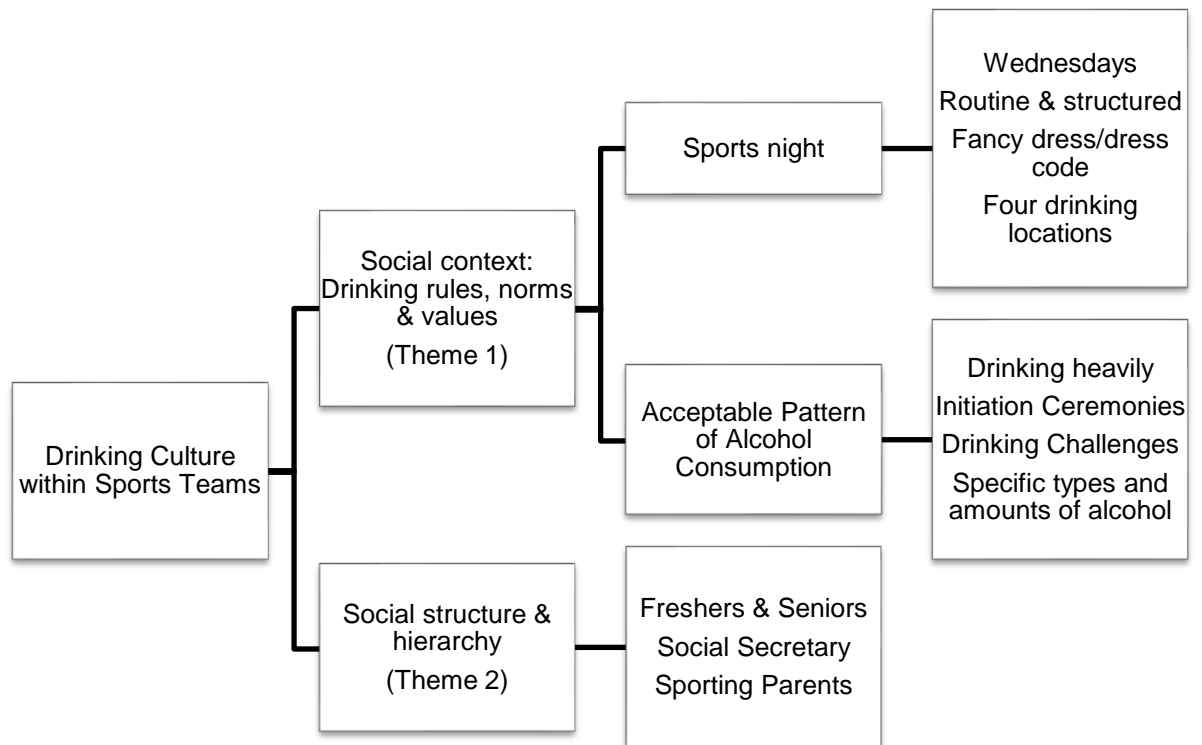
<i>Participant</i>	<i>Sport</i>	<i>Gender</i>	<i>AUDIT Category</i>	<i>AUDIT Score</i>	<i>Type of Drinker</i>
1	Rugby	Male	Probable Dependence	20	Content
12	Hockey	Male	Probable Dependence	20	Content
14	Netball	Female	Harmful	17	Content
2	Hockey	Female	Harmful	16	Content
4	Hockey	Female	Harmful	16	Conflicted
5	Hockey	Female	Harmful	16	Conflicted
3	Hockey	Female	Hazardous	15	Content
6	Hockey	Male	Hazardous	15	Content
15	Rugby	Female	Hazardous	15	Content
16	Rugby	Female	Hazardous	14	Content
7	Hockey	Male	Hazardous	14	Conflicted
17	Rugby	Female	Hazardous	14	Conflicted
13	Rugby	Male	Hazardous	13	Content
10	Hockey	Female	Hazardous	13	Conflicted
9	Hockey	Female	Hazardous	10	Content
11	Hockey	Male	Hazardous	10	Content
8	Water polo	Female	Low Risk	6	Conflicted

Qualitative Findings

The main qualitative findings are presented in six themes. The findings are presented in an order which aligns with the three principal areas commonly covered in subculture research, namely a description of the characteristics of the subculture and the associated behaviour of the members, a description of typical subcultural career and career contingencies, and a description of appropriate subcultural identity or behaviour (Donnelly & Young, 1988).

Therefore, the first two themes in this study describe the drinking culture within the sports teams, including the specific rules, norms and valued activities of the culture, and the social hierarchy and structure through which such aspects of the culture are enforced. A thematic map of these initial two themes is shown in Figure 6. The subsequent three themes reflect the social benefits and cost of heavy alcohol consumption and the costs associated with not engaging in the culturally valued drinking behaviours. The final theme presents student-athletes' individual experiences within the drinking culture, their awareness of the potential benefits and costs of drinking behaviours, and how they made choices in relation to their alcohol consumption. This final theme is structured from the perspective of being a content or conflicted drinker.

Figure 6. Thematic map of themes one and two



4.3.1 Social context: Drinking rules, norms and values

Student-athletes were expected, even required, to drink heavily on specified days. In particular, Wednesday evenings. Although participants did describe occasional “*pint sessions*” which occurred on a Sunday, or drinking together for special occasions such as a teammate’s birthday, Wednesday evening was considered particularly significant. Wednesday evening was commonly referred to across participants as “*sports night*”, whereby student-athletes would compete in their chosen sport during the day and socialise with their teammates in the evening. There was an expectation that all members of the team attended sports night; “*we’re very much you go out every Wednesday, no matter what*” (P4). The student-athletes were aware of this expectation within their drinking culture and talked about it as a something which transcended to other sports team on campus and other universities;

“Even the people we play, you see them, like we go for teas after and we’ve all showered and got changed, Wednesdays are always fancy dress, so we’re there in our fancy dress and the team that we’ve just played are in their fancy dress and they’re going out on their Wednesdays. So, it’s just what everyone does” (P2)

A Wednesday sport night was described as having a routine or structure, that all team members were aware of and had to adhere to. This structure included the timing and the locations of drinking sessions as well as the dress code. Typically, the female athletes adopted a different theme for fancy dress each week (e.g. zoo animals, cartoon characters), whereas the male athletes would follow a pre-set dress code involving specific clothing and colour combinations (e.g. blue chinos, pink shirt).

The athletes consumed alcohol across four distinct time points and locations on a Wednesday; at “*post-match teas*” which were usually held in a pub, on the bus home from away matches, and at “*pre-drinks*” held in halls of residence or a student house after returning home from the game. Finally, after “*pre-drinks*” athletes would go out and drink in local bars and clubs, particularly those offering general discounts on drinks or specific discounts on types of drinks such as “*trebles*”. It was expected that all athletes would participate, drinking alcohol at these specific time points and dressing according to the rules. On some occasions the athletes described an immediacy to their drinking on a Wednesday, stating that once they were off the pitch or in the changing rooms the first alcoholic drinks were opened;

“I think well once we’ve finished playing, the next step tends to be towards alcohol, just Wednesday night sport social stuff, depending on what time we’re playing or where we’re playing, the alcohol can start earlier, it can start later, it just depends” (P11).

Elements of the structured nature of drinking behaviour of sports teams have been described before in previous research, including fancy dress (Zhou & Heim, 2016), favoured bars or nightclubs and the immediate nature of alcohol consumption post-match (Fuchs & Le Hénaff, 2014). A novel finding here, however, is that ‘sports night’, in particular, the associated alcohol use had been normalised across teams at the same university but also a similar normalised pattern of behaviour was deemed to be present among student-athletes from other UK universities.

The acknowledged primary aim of sports night was to drink heavily, “*it wasn’t a Wednesday unless you were absolutely off it*”. The student-athletes described that the majority of their teammates drank alcohol and it was rare for a team member not to drink alcohol. Participants were aware that drinking heavily was a valued and desired behaviour within the team, as participant 3 described: “*there is a sort of drinking culture within us, so it is a bit desirable to drink more*”.

Heavy drinking was facilitated through initiation ceremonies, drinking challenges and tasks, and rules were in place around drinking specific types and quantity of alcohol. New team members,

usually “*Freshers*”, first year undergraduate students or less commonly postgraduate students who were new to the university, were expected to go through initiation ceremonies. Initiation ceremonies occurred early in first semester after squads had been selected and for the athletes in this study involved a combination of eating and drinking challenges:

“I went to initiation and did all these silly games, obviously there’s lots of drinking involved, there’s some unpleasant things happening like bobbing for onions...drinking out of old milk containers” (P17).

Over the course of the academic year, drinking challenges would continue to be set on a Wednesday night, usually within the environment of pre-drinks. Drinking challenges revolved around consuming alcoholic drinks quickly, “*seeing off pints*” and drinking alcohol in or through specific apparatus, such as items of sports clothing, funnels or different vessels, “*you pour beer in your shoe and you have to drink it out of your shoe*”. The athletes also described occasions where different types of alcohol were mixed with food items, referred to as a “*shit mix*”, and tasks where alcohol, usually cider, was taped to both hands “*Edward cider hands*”, thus incapacitating the individual until they had drunk the cider and were able to free one or both of their hands. Drinking was also associated with other cultural traditions such as singing songs, chanting, talent shows and engaging in physical challenges (i.e. jumping on tables).

Athletes were often asked to bring a specific type and amount of alcohol with them on Wednesdays, for example two litres of cider, four cans of lager or types of alcohol, which students would not usually choose to drink such as port, red wine or whiskey. Freshers were often the main focus at pre-drinks, being set the majority of alcohol-focused challenges or tasks, “*there is a bit of fresher drink this, fresher drink that*” including having to consume a certain amount of alcohol between all of the freshers present. However, challenges were also set as punishment for team members who committed certain indiscretions such as being late to pre-drinks, not adhering to the dress code or those who had made sporting mistakes earlier in the day.

Of note, within some teams there were less stringent rules and expectations regarding alcohol use. As a result, those student-athletes who wished to drink heavily sought out alternative social groups. For example, participant 14 reported that she would go out on a Wednesday evening with the wider netball club (i.e. players from other netball teams) because her team did not have a strong drinking culture.

On the whole, the overall level of alcohol consumption described by the student-athletes interviewed in this study is consistent with prior research (Sparkes et al., 2007; Zhou & Heim, 2016). The expectation for athletes to drink heavily was communicated and enforced

through initiation ceremonies and drinking challenges. The findings presented are consistent with previous research which has documented the nature of initiation ceremonies that take place at the start of each academic year and involve high levels of alcohol use (Clayton & Harris, 2008; Groves et al., 2012). However, initiation ceremonies are seemingly only a small part of the student-athlete drinking culture, with student-athletes in this study describing the continued use of drinking challenges and tasks throughout the academic year. Drinking challenges and games have previously been acknowledged as part of the drinking culture at university (Hughes, 2012; Zamboanga, 2006), however it is of concern to note the weekly frequency, physical incapacitation and involvement of hard spirits in such challenges.

4.3.2 Social structure and hierarchy

The second theme refers to the social structure and hierarchy within the team, including different social roles and associated responsibilities within the drinking culture. The main distinction between team members was a seniority hierarchy, where all athletes frequently used the terms “*freshers*” and “*seniors*” throughout their interviews. A fresher was a new member of the team usually in their first year of an undergraduate degree, whereas a senior was a team member in second year or above. The distinction between team members reflected the different groups who are entering the culture at the start of the academic year. Freshers are new members of the culture, with little prior experience of such an environment and could be considered neophytes or novices (Donnelly & Young, 1988). However, the seniors are returning members of the culture, familiar with the cultural rules, norms and values.

The senior team members played a significant role in defining, communicating and enforcing the rules in the drinking culture. The senior players would predominantly set drinking challenges for the freshers and choose the drinking games that were played. The hierarchy meant that athletes who had served the longest in the team were to be listened to and respected;

“if you’re second year or third year, you tend to have more responsibility, especially in our courting sessions, which is at the end of every game...it’s like this little funny ceremony, where we drink and stuff...it’s always led by the older years and they have the final say in whatever we do” (P1).

The freshers were expected to do as they were told, and were frequently reminded that the seniors had been through the same process; *“that’s the thing the freshers know that we’ve all been through that and that we’d never make them do something we didn’t do” (P2).*

Several of the athletes interviewed referred to getting through your fresher year, *“you’ve done freshers, you’ve kind of completed it”* and *“your time will come when you can tell others what to do”*. However, some of the student-athletes acknowledged that this attitude led to a pattern of extreme drinking challenges or behaviour, as participant 15 commented; *“that’s why the football girls are so bad because the girls that were treated so bad in my year have then done it to their fresher this year because ‘well we were treated like that, so I am going to do it to them’”*.

At the top of the hierarchy was the social secretary, who was perceived to be in a position of social power and control, as participant 4, a team captain commented; *“when it comes to socials like I don’t really have any say (as Captain), it’s the social sec who has the say, so she organises everything, so she encourages the drinking and stuff”*. In addition to making key decisions before and during a sports night, and enforcing the rules of the drinking culture, social secretaries were expected to *“lead the way”* and *“set the tone”* regarding alcohol consumption. Participant 3 reflected on her time as a social secretary; *“as social sec in my second year, well I am going to drink more I am going to show you, I am going to do it, so you can do it. Like especially the first funnel, as social sec I am going to do the first funnel”*. The role of social secretary was deemed to require significant effort to involve all team members and at times the pressure of such responsibilities became too much:

“the social sec was getting annoyed because no one was listening to her so she made us sit in silence, drinking in silence, ‘yeah that works!’...so us three and another girl we just left...because it was awful, like she’s very power hungry, obviously wanted to be in charge and didn’t feel anyone was listening to her, so that wasn’t fun” (P9)

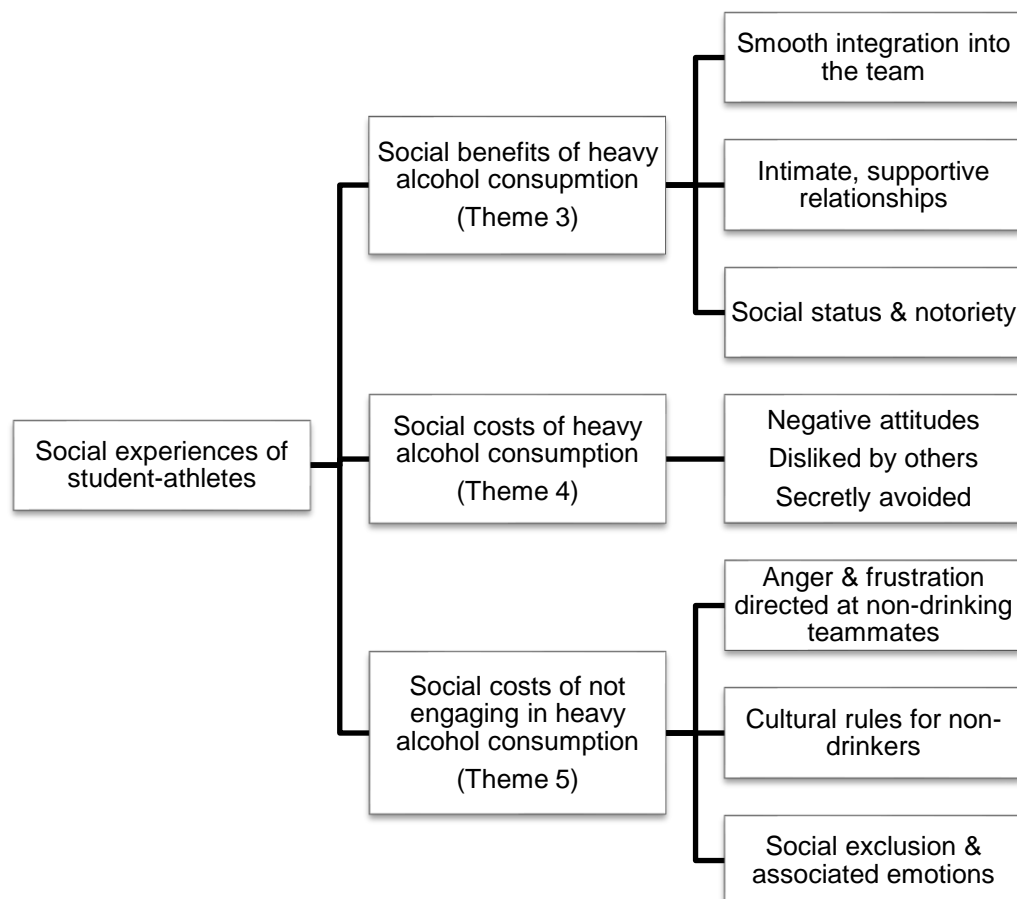
Finally, some of the sports teams adopted a strategy where freshers or new team members were given a *“parent”*. Senior team members would become *“hockey mums”* or *“rugby dads”*, with the intention of providing support, help and encouraging integration between new and existing members of the team. These assigned social roles often linked back to alcohol, where drinking tasks were overseen by sporting *“parents”* who could uphold the rules, *“overrule”* a task set for their *“child”* by another senior or help their *“child”* manage the quantity of alcohol they had been asked to consume. For example, Participant 9 described the arrangement she had; *“my hockey mum is very well aware of what happened on my first night out and she drinks some of it (cider) for me, but I suppose that’s because there’s some free drink for her as well, but it works”*.

This theme demonstrates that university sports teams have a clear social structure, with defined and assigned roles, offering support to findings from previous research (Christmas

& Seymour, 2014). Seniors, sporting parents and social secretaries occupy positions of power over freshers and other team members. This social hierarchy has become a mechanism through which to enforce the rules and norms around alcohol use, whereby seniors and the social secretary model appropriate alcohol behaviour for new and existing team members (Donnelly & Young, 1988).

To summarise, the initial two themes have provided an understanding of the cultural rules around alcohol and identified those individuals who define the rules. Moving on, the next three themes look to explore the social benefits and costs athletes perceive in relation to engaging or not engaging with the rules around alcohol consumption. A thematic map of these three themes and their associated sub-themes is shown in Figure 7.

Figure 7. Thematic map of themes three, four and five



4.3.3 The social benefits of heavy alcohol consumption

The third theme represents the social benefits which student-athletes perceive are gained by following the cultural rules around alcohol consumption. This overarching theme can be split into three sub-themes reflecting the different types of social benefits; i) Smooth

integration into the team ii) Intimate, supportive relationships and iii) Social status and notoriety.

4.3.3.1 Smooth integration into the team

For those student-athletes entering the culture, a Wednesday sports night was a good opportunity to meet team members, including important individuals such as the captain, chairman and “*main characters*” on the team. At the start of the year drinking together provided an opportunity to break the ice and for individuals to find their place within the team. As the academic year progressed, student-athletes felt that Wednesday evenings provided an opportunity to spend lengthy periods of time with their teammates in a lively environment without sporting or academic pressures. As participant 2 explains, attending on Wednesday enabled the individual to get to know more people on their specific team as well as other student-athletes from different sports;

“like the whole social side of a Wednesday night, I’ve got to know so many more people from university sports teams and that’s what I love because I just feel like you can go anywhere on campus now and I’ll know someone”.

Alcohol consumption was associated with the ease and speed with which new relationships could be established. For individual student-athletes, drinking alcohol led to feelings of confidence and comfort around their new team members. This included the confidence to be able to “*talk to anyone*” (P16) and take part in drinking challenges as a fresher. Participant 14 described how drinking had influenced her early social experiences with her team;

“it’s probably meant people got to know me a bit quicker, because obviously alcohol makes you more confident...so I probably let my hair down a bit more and when people kind of think you are a bit shy and boring then suddenly see you with alcohol and dancing the night away and being really good fun...then in that kind of environment everyone really likes you, so I guess you get the belonging feeling” (P14).

Many of the athletes shared the attitude that drinking alcohol together was beneficial and positive for the whole team. Alcohol use was perceived to make team members “*sociable*” and “*loosen up*”, which led to a sense of calm and relaxation throughout the team. This included the use of alcohol to manage the team dynamic following poor sporting performances;

“it helps the team dynamics that if we’ve all played crap and we all feel rubbish about how our performance has gone we just think bin it, let’s have a good night and forget about it the next training session fresh. Otherwise people start getting at each other, so I think it is quite important to have that fun element otherwise things are just too serious” (P2).

Drinking alcohol together was perceived to be an effective means of fostering a connection or bond between individual team members, *“going out and getting drunk is a great way to get everyone to bond (P17)”*. Participants stressed the importance of various alcohol-related bonding opportunities, such as drinking with their teammates on a Wednesday evening, at the student’s union, on St. Patricks day or whilst watching other university sports teams. For some athletes participating in the fresher drinking challenges was a bonding exercise where they felt closer to the senior players, like participant 16 discusses: *“I felt like doing all of the stuff as a fresher for me helped me bond with them because I know that the older girls before had to do that and the older girls before them had to do that, so I know that you just had to do it and I think that they respected that”*.

This sub-theme demonstrates that by following the cultural rules around drinking alcohol and attending a Wednesday sports night, new members of the team were able to gain access to the social group with ease and confidence. Social benefits associated with relaxation, sociability and the ability to bond with one’s teammates have been identified in previous research involving students and student-athletes (Clayton, 2013; Hughes, 2012).

4.3.3.2 Intimate, supportive team relationships

Student-athletes believed that with continued engagement in the culturally prescribed drinking behaviour, relationships between team members progressed to a level of intimacy and support that would not have been possible without alcohol;

“like drinking...it can bring you together, like you can get emotional when you’ve been drinking and that sometimes can bring you a lot closer together with a teammate, so I do feel like sometimes it does help, I definitely feel closer to people that I go out with than if I am just like training with them” (P16)

“I feel like if there wasn’t alcohol as in involved, I don’t think we’d all be as close as we are like, as a team” (P6).

The connection between teammates who drank together was perceived to be *“strong”*, *“solid”* and *“you don’t get to know people anywhere like you do when you’re out with them*

or you're drinking with them" (P11). The student-athletes interviewed felt that such strong and solid connections had been formed because team members would become louder, more talkative and openly share personal information with others whilst drinking together, a process which Participant 1 described;

"If I ran into one (of my teammates) at 10 o'clock in the morning outside a lecture hall, I wouldn't be like 'oh my god I want to tell you this funny story about me, three years ago on holiday...', but after a few drinks you're 'oh yeah, there's a funny story, like three years ago...', you obviously get a lot more chattier...I suppose you get to know more about each other, I suppose it helps massively" (P1).

Some of the student-athletes reported that there was a family atmosphere within their sports team, where team members would trust and look after one another. For example, on a Wednesday evening many of the student-athletes reported that their teammates would take care of them and get them home safely;

"I knew that no matter how drunk I'd be someone would always be looking after me and I would just go out and just have a great time and always get home ok, like the seniors would always make sure I am ok" (P2).

The perception that drinking excessive amounts of alcohol with trusted friends or teammates creates a safe environment has previously been documented among Australian undergraduates and student-athletes in the UK (Hallet et al., 2014; Zhou & Heim, 2016).

Student-athletes described engaging in "deep meaningful conversations" (P17) and "deep chats" (P5) on a Wednesday evening, which could lead to teammates offering each other ongoing support if troubling issues were disclosed whilst drunk. For example, Participant 9 described how a discussion on a Wednesday evening resulted in support from her teammates the following day;

"when you get a bit drunk and if someone says something, you're like 'ah', just like having a little bonding session with them...then everyone's like 'oh yeah, no don't worry about it'...then the next day you get (text) messages like 'hope you're ok, here if you ever need to talk'...the next day they're still sort of there".

Student-athletes also believed that the relationships which had been forged during alcohol fuelled nights out were able to withstand the frustrations and challenges associated with

playing team sport, with participant 11 remarking *“I guess it (drinking together) sort of builds those bonds for when you do fall out”*. Participants 7 and 11 emphasised that drinking together on a Wednesday evening provided athletes with the opportunity to communicate, problem solve and make amends for aggression or a disagreement on the pitch;

“you might have frustrations with other players and drinking can bring out what you really mean, that can make up a lot of friendships...if you’ve had an argument on the pitch afterward when you go to someone’s house as a team or pre’s...you make up with people, you might have shouted at them, swore at them, but afterwards when you’re a little bit more relaxed together...if you didn’t socialise together afterwards the game you might not say and that might create tensions which wouldn’t be great for the team” (P7).

Through continued engagement in the drinking culture, student-athletes described being able to access another layer of social benefits. This sub-theme reflects the student-athlete’s perceptions that the bonds forged through alcohol use are intimate, strong and able to withstand the pressures associated with sport. Within both of these sub-themes, there were also wider social benefits of alcohol use for the team as a whole, including being able to solve problems or disputes. These findings are of a similar nature to those described by Zhou and Heim (2016), where alcohol could be used to influence the group dynamic and foster social identity.

4.3.3.3 Social status & notoriety

The third sub-theme captured the processes through which student-athletes could achieve social benefits relating to social status and notoriety. The athletes referred to three main processes through which they could gain favourable social status and become a popular member of the team, firstly regular attendance and following the rules on a Wednesday evening, secondly successful participation in drinking challenges, and finally engaging in alcohol focused story telling. Of note, the student-athletes were not provided with a definition of popularity, and the findings and associated quotes within this sub-theme reflect their interpretation of the term popularity.

Student-athletes who regularly attended on a Wednesday evening, or who attended each and every type of team social event were considered popular;

“the people who I would say are more popular ones are the core group that goes out every week, erm so they don’t miss anything, they’re in on all the action all the time” (P17).

As well as attending on a Wednesday evening, student-athletes who drank alcohol, and followed or set the cultural rules were afforded higher social status. In particular, student-athletes who drank the most were seen as the most popular on the team; *“it’s really obvious within (name of sport), because the biggest and the loudest people are the most popular and the drunkest normally” (P5).*

Similarly, drinking alcohol at speed was a desirable skill or ability; *“drinking a pint fast is definitely a helpful thing for like your social status” (P12).* Drinking challenges were an opportunity to *“show off”* and *“impress”* others with such skills. These challenges were often very competitive, where teammates or opposing teams from different universities would challenge each other on tasks such as boat races. Successful completion of a drinking challenge earned praise or recognition from teammates and peers; *“drinking a bottle of port in 30 seconds is ridiculous but if you do it it’s kind of like everyone is kind of like you know ‘holy s**t that’s so cool, like well done’” (P12).*

Successfully completing a drinking challenge was also noted as a way to gain credibility and improve one’s social status in the team; *“in terms of socially in the club as a whole I think it, I think it has a big influence because they if you’re good at downing or something everyone kind of wants you in their team” (P14).* Alternatively, failing to complete drinking challenges or facing defeat from other sports teams could reflect a loss of social standing; *“if you ruin the boat race for your team...you’re a bit of muppet really” (P12).*

Alcohol was an important topic of conversation, which provided an opportunity for the team to tell stories and share positive memories of their university experience. Alcohol consumption and events on a sport night provided the athletes with something to talk about, both prior to and in the days after a sports night out;

“it’s only the next day at training on Thursday after a Wednesday night, there’s so much like gossip and just talking about what happened the night before” (P9).

“the day after hearing everyone’s funny stories about being drunk is a massive part of it, like we have strength and conditioning on a Thursday and we’re all hungover and we’re all discussing what happened yesterday” (P2).

During these alcohol-focused conversations, the student-athletes would be able to talk to teammates they did not know as well, develop jokes and tease or embarrass each other, and comment on each other's alcohol behaviour. Many of the student-athletes attributed these conversations as one of the initial ways they connected or became friends with their teammates.

The level of involvement in such story telling opportunities seemingly reflected a team member's social status. For the majority of team members listening to such stories kept them up to date with team events, however their involvement was limited to laughing or nodding along and such stories could be perceived as private jokes by non-drinkers;

"I think they quite often have like a shared experience so they can all talk about whatever's gone on, or what they've seen or what they've done or whatever, like I think that's the key thing that I've picked up on, you know nearly every week they have a new tale like that they all know, they've all got something to share (P8).

The student-athletes telling the stories or who were the subject of the story captured the collective attention of the team. Popular student-athletes were individuals who got *"shouted out more, they get more comments"* (P5). The longest serving student-athletes had a repertoire of stories to share with the team, *"it does sort of give you a lot of stories"* and *"there's some funny stories that you've got from over three years of going out"* (P3).

Alcohol stories were frequently re-told, which propelled some student-athletes into well-known figures within their team and across campus. For the student-athletes in these positions their alcohol behaviour became something of folklore or legend. The student-athletes described a few of these characters during their interviews, including a former student-athlete known as the *"poly warrior"* who would *"appear every now and then, set the tone and make speeches"* (P13), a male hockey player who had *"drank a bottle of port in 30 seconds"* for which he was *"known for"* and received *"prestige"* (P12), and a female hockey player who has *"been out every single Wednesday"* (P2 & P4).

Story telling has previously been identified as a feature of drinking cultures, with gossip, stories and folklore offering a means of reinforcing culturally accepted behaviour and rules (Christmas & Seymour, 2014; Donnelly & Young, 1988; Hebden et al., 2015). Students and student-athletes have even reported engaging in irresponsible, risky or embarrassing behaviours in order to have a story to tell (Curry, 1998; Davies et al., 2017). However, findings here emphasise the importance of having a repertoire of alcohol stories, taking an active role in storytelling or being the focus of the story in order to improve one's social

status and notoriety. Critically, alcohol stories and the successful completion of drinking challenges seemingly gave student-athletes the ability to achieve a specific type of popularity associated with positions of social power, prestige and visibility (Cillessen & Marks, 2011; Gyll, Madon, Spoth, & Lannin, 2014).

4.3.4 The social costs of heavy alcohol consumption

The fourth theme reflected that heavy alcohol consumption was actually related to some social costs. Although not openly discussed within the culture, some athletes admitted to having negative feelings about teammates who drank to excess.

Many of the student-athletes interviewed described negative attitudes towards their teammates who drank heavily and were angry drunks, started fights, did not “*get fun afterwards*” or could not “*handle*” their drink. Some participants recalled arguments, disagreements and physical altercations between their teammates either whilst drinking or due to their behaviour on a Wednesday night. Participant 7 further commented that being drunk was often used as an acceptable excuse for bad or unruly behaviour;

“I think when you’re drunk I think you can almost use that as an excuse maybe and...if you get into an argument or fight with someone, you can kind of say ‘I’m really sorry, you know I was drunk’ and that can maybe be an excuse, whereas if you did normally it wouldn’t be”.

The student-athletes also highlighted that being looked after by their teammates was a conditional social benefit, expressing frustration at having to look after senior teammates “*who should know your limits by now*” (P16) or teammates who were repeatedly unable to function when intoxicated. In particular, some student-athletes referred to their teammates as a burden, nuisance or hassle;

“you have to look after them...especially if it’s a first year, if it’s a second or third year like ‘well you’ve made your own mistakes, it’s up to you now’, but if it’s sort of a first year or very early on...it’s a bit of a burden almost” (P11).

“if you’re too drunk, which some people are at (the first nightclub), I wouldn’t say it’s frowned upon, it’s a nuisance for the rest of us, we have to deal with it and obviously you can’t be bothered to deal with it” (P12).

“I think if you’re at pre’s and drinking as much as everyone else then... you start being more of a hassle and heavy weight I think people don’t enjoy that, if you have

*to be more of a burden to people I think that's when people get more p*****d off at you" (P14).*

Furthermore, some of the student-athletes reported secretly avoiding the heaviest drinkers. Team members who drank at high levels and vociferously encouraged others to do so were actually feared by some of their teammates. For example, participant 4 described her initial fear of a teammate and that she had to learn how to manage this person's behaviour;

"there's one individual who literally like will drink anyone under the table and I remember the first couple of weeks as a fresher I was really scared because she didn't really know me, so on a night out she would be very like 'fresher do this, fresher do that', like very serious and I would get really, really scared, but then as soon as you get to know them, you know how to approach them when they're drinking now because I've learnt their drinking habits and stuff".

Similarly, participant 5 reported her avoidance of heavy drinkers; *"the people who drink more than me I just try and stay away from because they're too boisterous, they're too much in your face, erm they try to sort of control the party as well, they're trying to control what's going on"*. Although student-athletes were forthcoming with these views during the interviews, it is of critical importance to note these social costs are hidden and not expressed publicly within the culture. Furthermore, heavy drinkers are unlikely to be aware of these social costs.

In contrast to existing research which has suggested some minor social implications of heavy alcohol use such as disagreements or inappropriate behaviour on a night out (Christmas & Seymour, 2014), student-athletes within this study suggest there are more serious social consequences to heavy alcohol consumption including avoidance, exclusion and friendship breakdown. Whilst other studies have reported young people and students are fearful and concerned about being perceived as the "sketchy drunk guy" or judged negatively (de Visser et al., 2013; Dodd et al., 2010), findings here confirm that students are judging their heavy drinking peers negatively and altering their behaviour towards them.

4.3.5 The social costs of not engaging in heavy alcohol consumption

Student-athletes were highly aware of the social costs associated with not conforming to the accepted drinking behaviours. The fifth theme incorporates both the experiences of student-athletes who did not engage in heavy alcohol consumption and the perspectives of student-athletes who embodied the drinking culture. There are three sub-themes; i) the

negative reaction of heavy drinkers towards non-drinking teammates, ii) the alternative cultural rules which heavy drinkers developed for non-drinking teammates and iii) social exclusion and associated emotions felt by non-drinkers.

4.3.5.1 The negative reactions of heavy drinkers towards non-drinking teammates

Student-athletes who did not join in with the drinking culture of a sports night, including not following the rules surrounding drinking challenges and tasks, risked subjecting themselves to negative reactions from teammates. For example, Participant 16, shared her perspective:

“it annoys me because if you just go for it, we’ll be less harsh on you...it’s just kind of annoying because we had to do all of that stuff and you get girls coming in and being like cocky, like ‘nah I am not doing that, I am not seeing off that drink’...but what annoys me the most is ours isn’t even that bad...I am looking at our (freshers) like ‘you get it so easy, just at least put a bit of effort in’”.

As participant 16 alluded to, some of the student-athletes believed what they were asking their teammates to do was not difficult. These athletes were confused by their teammates’ refusal to drink or participate in drinking challenges, participant 4 recalls the reaction of seniors on her team to non-drinking;

“some of the seniors really struggled to understand why they are not drinking because...like a couple of years ago it was very much, you’re a fresher you drink, you do everything we tell you to do and it’s very different, a couple have struggled with that and a couple of them have just backed away and been like ‘I don’t know how to deal with the situation’, so they don’t say anything to the freshers, they just can’t”

This confusion and perceived rejection of the culture resulted in negative comments such as; *“well why, what’s wrong with you? we’re all doing it”, “they’re really boring tonight”* and *“what’s the point, just get involved”*. These comments were often directed at the individual, however on some occasions opinions were discussed behind the team member’s back. There was also a strong perception that not attending a sports night or taking other opportunities to spend time with the team was a sign of a lack of interest in the team; *“why aren’t you spending your spare time with us?”* and *“do you want to be here?”*.

Over time, some of the heavy drinking athletes reported that their frustration, anger and confusion led to apathy towards their teammates who did not adhere to the cultural rules,

for example Participant 16 shared her thoughts: *“we have had a lot of girls this year coming and saying no to a lot of stuff and then by the end of it, I am just am like ‘oh well I can’t be bothered, if you are not going to do anything that’s’, like ‘it’s your loss’”*. Participant 16 went on later in her interview to add; *“yeah for me it’s just like if you don’t put the effort in with us, well how do you expect us to put the effort in with you and like bring you in and bond with you, if you’re not willing to do anything”*.

This sub-theme illustrates that student-athletes who did not drink alcohol and follow the cultural rules were perceived as having rejected the culture. This has been observed previously among other groups of student-athletes, where non-attendance at social events or showing up late demonstrated a lack of commitment and was viewed as a sign of indifference towards the group (Clayton & Harris, 2008; Zhou & Heim, 2016).

4.3.5.2 The alternative cultural rules for non-drinkers

Despite the negative feelings expressed in relation to student-athletes who did not comply with the drinking culture, many student-athletes claimed that non-drinkers were welcome in their sport team and that they would not be forced to drink alcohol;

“there’s a couple of girls on the team that don’t drink full stop, like they have never wanted to drink and that’s been totally fine, because we just think it’s your choice, like we’re not going to force you to drink, we don’t force anyone to drink and they still have a good time and get themselves involved” (P2).

As a result, student-athletes described various strategies employed to include non-drinkers and an alternative set of cultural rules for non-drinkers. The main strategy was *“sober socials”*, a team or club social gathering where the focus was on a social activity other than alcohol consumption such as bowling, board games, film and pizza nights. Participant 16 described her team’s approach to sober socials; *“on the Wednesday instead of going out we’d have like a games night, a sober social or bowling or something like that, just so we were there as a team, still bonding, just not with alcohol”*.

All team members were expected to attend sober socials regardless of their normal drinking behaviour and usual level of social involvement with the team. However, sober socials occurred less frequently than a sports night and mainly at times in the year when sporting performance demands were high. In reality, sober socials were only deemed socially acceptable when abstinence from alcohol had been requested by the coach and/or suggested by those who set and enforced the cultural rules in the team (i.e. seniors/social secretary).

In the absence of regular sober socials, heavy drinking student-athletes expected that all team members attended a Wednesday evening regardless of their alcohol intake;

“I’d rather someone who didn’t drink and came out, rather than didn’t drink and just went home, you want them to come out and still be part of it, yeah...plus they’ll be able to tell you all the stupid things people did, so it’s perfect” (P11).

By attending a Wednesday sports night, non-drinking team members were perceived to have made an effort, as Participant 16 describes; *“as long as you are sociable and you do make the effort to come out...like sober social or not...this year there’s a lot of girls that don’t drink that much but they are still good craic, I’d still call them some of my best mates”.*

Another strategy adopted was to encourage team members to participate in any type of challenge or task on a Wednesday night. For example, drinking challenges would be adapted to food or physical challenges. In some teams, however, the focus of drinking challenges would shift onto seniors when lower drinking or non-drinking freshers were present, as Participant 3 describes:

“this year the people that have come up don’t really drink as much and we sort of noticed that very early on, so sort of we just took it upon ourselves to become fresher’s again...we didn’t realise at first so we might have been a bit too hard on them, but once we realised we kind of took the pressure off them and we just kind of drank more instead, like I mentioned earlier we’d point the (drinking) games at ourselves instead of them”.

However, as Donnelly and Young (1988) suggest, this may be another attempt by senior or experienced members of the team to act out and demonstrate the values, appropriate attitudes and typical behaviour expected within the culture.

Whilst these findings indicate the possibility for less extreme alcohol behaviours, it is notable that the alternative cultural rules still usually required consumption of alcohol, albeit at a reduced level; *“we’ve tried to encourage them to do different things, like smaller amounts of everything, so we’d be like bring four cans, like rather than two litres” (P4).* The alternative cultural rules, therefore largely mirror the rules and norms around alcohol consumption, which suggests a rigid unrealistic set of expectations for non-drinkers.

Finally, student-athletes who drank heavily described that *“as long as”* non-drinking or low-drinking team members had *“good banter”* and *“an alright personality”*, then *“they’d still be*

fine” and *“then it really doesn’t matter”*. In addition, some of the athletes described that their teammates could off-set poor sporting performance by drinking heavily on team nights out and vice versa. For example, Participant 16 commented; *“if you can’t drink, a lot of the time people would make up for it on the field, so like if they had a great game and they couldn’t drink, like it didn’t really matter”*. This suggests that on some occasions non-adherence to the drinking culture could be overlooked and even permitted. This is consistent with previous research which suggests that exceptions to the cultural rules can be made for non-drinking team members who occupy a leadership position (Zhou & Heim, 2016).

Overall, the findings here suggest there is some flexibility regarding the rules of the drinking culture and scope within some sports team for different identities and behaviours to develop and be validated. This lends support to previous research which acknowledges that some deviation and variation in the cultural rules is possible (Donnelly & Young, 1988, Zhou & Heim, 2016).

4.3.5.3 Social exclusion & associated emotions

The student-athletes who did not engage in the culturally prescribed levels of alcohol consumption described difficulties fitting in and gaining acceptance in the team, as Participant 5 summarises *“you can say no to drink but then you won’t fit in as well...people judge you if you don’t drink, which is pretty bad”* and *“you just don’t fit in if you don’t drink with them”*. Not drinking at the prescribed level was deemed to have delayed or *“set back”* the process of fitting in or belonging within their sports team;

“I could definitely tell that they (those drank alcohol) were a lot more involved than me. The reason I associated it with was they went out a lot more and had kind of the free time to go on a lot more of the night outs...obviously I expected it to take a while to fit in and by the middle of last year I still felt that I was no further forward than when I had joined in September” (P8)

Student-athletes who did not follow the drinking rules were directly challenged on their drinking behaviour, for example; *“I stuck to it and you get a lot of grief...you get that initial grief ‘why aren’t you drinking or whatever?’” (P7)*. Beyond this, some student-athletes felt pressured to drink alcohol and bullied into drinking challenges;

“Everything just felt forced upon me, like everything from playing hockey and just doing what I should be doing, to going out and drinking, everything

was forced. Like I wouldn't really want to go out but I would have to drag myself out of the flat, I didn't want to get dressed up and all this" (P5).

Ultimately, this led to discomfort and a lack of enjoyment when socializing with their team on a Wednesday evening, with athletes often questioning *"this wasn't fun, why am I doing this to myself?" (P5).*

Those athletes who did not attend a sports night felt judged or labelled, *"I think sometimes they definitely thought I was like really boring" (P8).* Non-attendance on a sports night led to feelings of missed opportunities to make friends and regret when seeing the photos and videos of their teammates having fun after a night out. Furthermore, these athletes were unable to participate in the alcohol conversations which occurred at training or matches, *"sometimes it felt like I didn't really have much to like chip in because I wasn't, I obviously wasn't there whenever it happened, so like aside from laughing, like my input was pretty limited" (P8).*

Due to his decision not to follow the drinking rules, participant 7 felt that his teammates who were heavy drinkers did not notice or miss him in his absence on a Wednesday evening;

"I think my place in the team on the field is a lot maybe stronger than my place in the social aspect of it, erm because I don't go out that much...I think when they do go out a lot of time on their own and I don't, I think it maybe they don't feel they're missing someone" (P7).

However, some of the student-athletes who drank heavily were aware that team members who did not drink as much or attend on a Wednesday evening could *"get lost away from the group" (P11)* and that *"they're not in as much with what happens, so if something funny happens on the night they miss it" (P3).*

Finally, participant 8 acknowledge that team members who regularly attended a sport night and drank alcohol were seemingly unaware of the socially fortunate position they were in;

"I don't think...they might not realise kind of the social benefits that Wednesday night brings, because to them it's just like a Wednesday night but I think like from my side from not going out I can definitely see like the benefits that they get from it compared to like my position".

This study has moved beyond existing research by incorporating the social experiences of both student-athletes who embodied the drinking culture and student-athletes who do not engage in heavy alcohol consumption. Across the three themes presented here, it is clear

that there are social benefits associated with drinking alcohol and obvious social costs related to abstinence or low levels of alcohol use. Instead of the broad negative connotations of non-drinking reported in previous research (Hallet, 2014; Conroy & de Visser, 2017), findings in this study have demonstrated that heavy drinkers were angry, confused, apathetic and suspicious of non-drinkers. Taken together, the unrealistic set of expectations for non-drinkers and the subsequent exclusion student-athletes experience, supports the perspective of Hughes (2012), who suggested the “happy inclusion of non-drinkers at university is somewhat oversimplified” (p26).

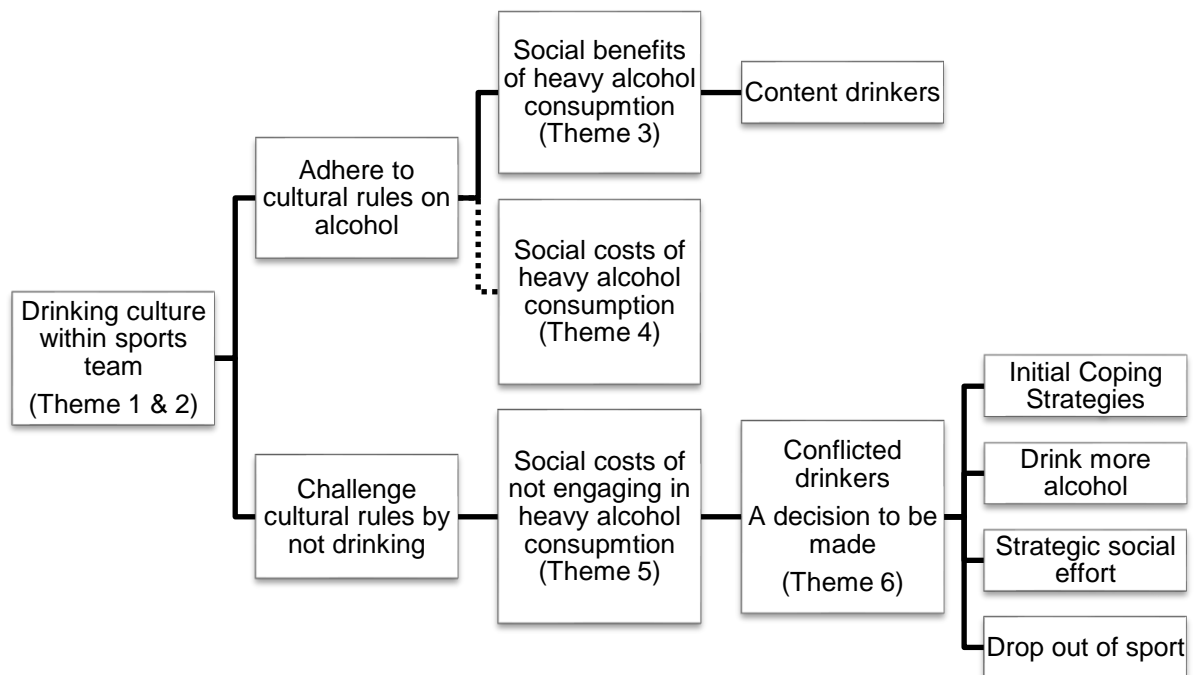
4.3.6 The impact of perceived social benefits and costs on decisions around alcohol consumption

Within the previous five themes, the student-athletes demonstrated that they were aware of social benefits and costs associated with alcohol consumption. Consequently, within this final theme, there is need to explore how this awareness shaped their decision-making regarding alcohol consumption.

Two distinct sub-groups of student-athletes were identified during data analysis. Members of the different sub-groups had different views about alcohol, made different choices around alcohol and due to their choices had different social experiences within the team sport drinking culture. The first group, who for the purposes of this study will be referred to as ‘content drinkers’, had a very positive view of alcohol consumption and enjoyed heavy drinking. These athletes felt comfortable and at home within the drinking culture, followed the cultural rules and generally had a positive social experience, enjoying the social benefits described in the themes above. The second group, referred to as ‘conflicted drinkers’, had a more ambivalent view of alcohol consumption and correspondingly a more complex engagement with the cultural rules. Both the content and conflicted drinkers were highly aware of the relevance of the decisions they made around alcohol, in particular how those decisions had shaped their social experiences within the cultural group.

A final thematic map is presented in Figure 8, which shows the relationships between the previously described five themes and an overview of where the content and conflicted drinkers are positioned prior to a description of their decision making within this final theme.

Figure 8. Thematic map of all themes



4.3.6.1 Content drinkers

The ‘content drinkers’ were a sub-group of 11 student-athletes from the overall data set who shared a common liking of alcohol and enthusiasm to engage in heavy drinking. The student-athletes who belonged to this sub-group had AUDIT scores within the hazardous (N = 7), harmful (N = 2) and probable dependence (N = 2) categories (Table 5).

Prior to starting university, the content drinkers typically had previous experience of alcohol use, either direct experience from summer holidays abroad, or in-direct knowledge through alcohol stories told by their friends, family or siblings. Some of the content drinkers had also witnessed the relationship between alcohol and sport within their local sports clubs, and at boarding school or college.

Consequently, when starting university these student-athletes had knowledge of the drinking culture, which was epitomised in their expectancies and willingness to engage in the appropriate cultural behaviour. For example, participant 11 shared his perspective; “*I was expecting it anyway because I have had quite a lot of friends, from my club back home who have been to uni or were at uni, and I knew what Wednesday were like*”. Participant

16 also expressed; *"I was quite open to anything, like I knew coming to uni I'd have to do stuff as a fresher...so I just kept an open mind and gave everything a go"*.

Across their interviews, the content drinkers emphasised the importance of their sports team as a social group, frequently stating that most of their friends were from their team, or that their teammates were their best friends or most important social connections on campus. Content drinkers referred to broad social motives for their alcohol use, such as; *"at the end of the day, we're all here to have a good time" (P16)* and *"I just think people should have as much fun as they can while they are here" (P11)*.

The student-athletes who were classified as content drinkers had overwhelmingly positive attitudes toward drinking heavily;

"like looking back on my freshers when I was absolutely mortal, doing all these funny things, it's like the best memories for me" (P2).

"my best nights out of my life, so far, have been with hockey without a shadow of a doubt" (P12).

The content drinkers were aware of the social benefits associated with alcohol use and described the conscious decisions they had made to drink heavily in order to achieve such social benefits. For participant 2 and 9, they both recalled their early decision making when joining their sports team as freshers;

"I knew I couldn't drink that much but I did it anyway because I was like...I just wanted to sort of fit in like, proving that I am, that I want to be there or whatever" (P9).

"I have always taken that as 'right I am just going to go in, 100%, just do what they say and show that I am like' (pause) I know it sounds quite superficial thinking that I need to get their approval and stuff...I thought if I say no to things I am just going to either regret it or they'll think that I am not fun" (P2).

Whereas, participant 6 and 12 reflected on their overall decision to drink alcohol, comparing their alcohol behaviour in a different social context and considering what their social experience may have been had they not drank alcohol;

“if I was say like with my normal friends, I wouldn’t do some of the stuff I’ve done here just to like try and be funny and like you know get a bit more you know credit if you like” (P6).

“I wouldn’t have had as much fun, I don’t think I would have been as socially included if I hadn’t gone out and drunk at the pint sessions” (P12).

The content drinkers did acknowledge some physical risks and consequences they encountered due to the amount of alcohol they consumed. The most common physical health risk was alcohol-related injury, where all the student-athletes interviewed described injuries ranging from cuts, bruises and falls, to head injuries and concussion. Other risk-taking behaviour was also present on a Wednesday evening, including taking risks with one’s personal safety by walking home alone, which participant 14 summed up as *“sometimes I think you get a bit cavalier and think you’re a bit invincible”*.

Despite acknowledging the physical risks and consequences, on the whole the content drinkers were dismissive of the significance of such risks and consequences. This is summed up by participant 15’s attitude to her teammate sustaining concussion;

“we were all absolutely smashed and there was loads of sick outside the house and (teammate name), she just slipped in all this sick and she banged her head on the gatepost and she got this massive lump and she was concuss for about three weeks and she was just lying in all this sick like crying and we had to pick her up but it was just...it was hilarious, and we were all laughing after, it just one of those things that you’ll always remember and have that like bond with over, I always say to her ‘oh how’s your head’, stuff like that...it’s fine, it’s funny”.

This dismissive attitude and limited reflection on the risks associated with drinking has been observed previously among UK students (Griffin et al., 2009; Szmigin et al., 2008).

During the interviews, some of the student-athletes offered reflections on their alcohol consumption with the team, reaching conclusions that if they had not been drinking with the team they would have gone out with other groups of student friends and that although the level of alcohol consumed was high they would choose to adopt the same behaviour again;

“I don’t think I would ever choose to drink that much, but I mean looking back on it I wouldn’t not do it...if asked to do it again I would” (P13).

The content drinkers also offered an insight into why they maintained their pattern of alcohol use, explaining that a tolerance developed over time where; *“normal nights are never as fun anymore, just because I have such a good time on a Wednesday and everything is just so relaxed and so outrageous that everything else seems quite boring now”* (P2).

Overall, the content drinkers, as the name suggests are content to follow the drinking culture regardless of the physical risks and are seemingly unaware of any social costs to their alcohol behaviour. As shown in Figure 9, the content drinkers described a set of antecedents, expectancies and motives which allowed them to adhere to the cultural rules and therefore access social benefits.

Figure 9. Application of the Motivational Model to Content Drinkers' experiences

Antecedents	Expectation	Motivation	Drinking Behaviour	Consequences
<p>Prior experience of drinking</p> <p>Heard alcohol stories</p>	<p>Exposure to alcohol & sport relationship</p> <p>Open-minded & willing to engage in culture</p>	<p>Social motives</p> <p><i>“we’re all here to have a good time”</i></p>	<p>Heavy drinking as culture dictates</p>	<p>Social benefits</p> <p>Unaware of the unspoken & hidden social costs to heavy drinking</p>

4.3.6.2 Conflicted drinkers

The ‘conflicted drinkers’ were a sub-group of six student-athletes in the data set. The student-athletes in this sub-group did drink alcohol, however they did so at levels associated with low risk (N = 1), hazardous (N = 3) and harmful (N = 2) AUDIT categories (Table 5). The conflicted drinkers scores on the AUDIT at the time of the interview reflect the different behavioural strategies and choices they had made regarding alcohol and navigating the team drinking culture.

On arrival at university, many of the student-athletes in this sub-group had limited experience with alcohol:

“I had never seen that much alcohol drunk in my life, like I had seen films of it, but I had never actually seen funnels done in real life, because I didn’t go out much when I was back home” (P10)

Initially, some of the conflicted drinkers were proud of their non-drinking status when they arrived on campus; *“I was always quite proud of the fact that I was like ‘yeah, I am not a*

big drinker', I have managed to get to nearly 19 years old and I haven't been really drunk... I haven't thrown up from drinking" (P10).

These student-athletes also described their limited previous knowledge of the relationship between sport and alcohol until they became a member of a university sports team, referring to the drinking culture as *"a bit of a shock", "weird"* and *"completely new"*, as participant 10 summarises;

"it was the bright outfits, the loud music, the games I had never played before, the alcohol, the whole thing, I was just kind of sat there going 'wow, what's going on?'" (P10)

Among the conflicted drinkers, many of student-athletes had future sporting career aspirations or had already represented their country at an international level which had impacted upon their choice to drink alcohol prior to university; *"when I was younger I wouldn't go out because I'd have training, loads of my friends would go out and drink...my first night out ever was when I turned 18...I didn't really want to change who I was" (P4).* Alternatively, other conflicted drinkers reported simply having different perspectives or motives towards alcohol than content drinkers, as Participant 7 describes:

"I think I have a different view of drinking to sometimes to them and I think that comes from maybe my upbringing...living at home there wasn't a lot of clubs...I didn't really go out until I came to university, so I have a little bit of a different perception to the why you drink, if I drink I want to sort of celebrate something"

All of the conflicted drinkers shared the opinion that they were not particularly interested in consuming alcohol and cited the following reasons: lack of appeal, lack of enjoyment, previous or current employment in a bar and their age; *"I am older than everybody as well, like I am doing a master's. I have kind of got slightly different priorities and different attitudes now" (P17).*

During the interviews, the conflicted drinkers notably referred to other significant groups of friends, family members or romantic partners who they spent time with. These student-athletes also stressed the importance and demands of the academic courses which they were studying such as Law, Architecture and Engineering.

As a result of the above, the conflicted drinkers did not drink at the culturally prescribed levels upon entry to the culture. Due to adopting lower levels of alcohol consumption or

non-drinking initially, as a group the conflicted drinkers described that their early social experiences with their teammates were marred and defined by the social costs described in theme five. Additionally, many of the conflicted drinkers were acutely aware of how consuming alcohol at the levels associated with the drinking culture could be dangerous and lead to physical risks or consequences. The conflicted drinkers highlighted concerns over injuries, the calories contained within culturally approved alcoholic drinks, and the associated loss of physical fitness and weight gain;

“it’s horrendous for athletes to drink that much weekly...the amount of calories is ridiculous, especially in the stuff we are encouraged to drink, like cider and alco-pops...so, it is pretty detrimental to your health on top of the social side” (P5).

Furthermore, the conflicted drinkers expressed feelings of regret and embarrassment when they sustained an injury which left them unable to participate in their sport and showed an awareness of how teammates’ alcohol related injuries had an impact on the team’s sporting performance. This difference in perception of the physical risks and negative consequences between conflicted and content drinkers is clearly illustrated by participant 17, who is describing the same incident as participant 15;

“one of the girls slipped in sick, smacked her head on the front gate and gave herself concussion...so she was out for the whole like semi-final and we didn’t even know if she’d be able to play in the final because of concussion, so then our coach was absolutely furious because he’d been like this is one of the things I didn’t want to happen, is someone to get injured who is such a, she played like a core position in the team”

In summary, the conflicted drinkers described a series of antecedents, expectancies and motives which were incompatible with the culture in which they found themselves in (Figure 10). As a result of their initial reluctance to engage in the culturally prescribed alcohol consumption, conflicted drinkers endured negative social consequences and costs. However, these social costs were in direct conflict with their aims of successfully becoming a member of the team and performing to the best of their ability as an athlete.

Figure 10. Application of the Motivational Model to Conflicted Drinkers' experiences

Antecedents	Expectations	Motivation	Drinking Behaviour	Consequences
Limited or no prior experience with alcohol. Invested in multiple social groups.	Unaware of relationship between sport & alcohol.	Athletic/Sport focused, Inc. future sporting career aspirations.	Disinterest in alcohol use. Initial non - engagement in drinking culture.	Social costs Concerns over physical risks

The conflicted drinkers shared some similar characteristics with previous identified sub-groups within student-athlete culture. For example, the 'anti-jocks', a sub-group of athletes who compete in their chosen university sport, however are critical of jock culture and break some of the commandments including alcohol use (Sparkes et al., 2007). Alternatively, conflicted drinkers may represent student-athletes who have stronger athletic motives or an athletic identity, which have previously been negatively associated with alcohol use (Jin Zhou et al., 2015).

4.3.6.3 Alcohol decision making

By examining the attributes, characteristics and social experiences of the two different sub-groups within the data set, it is clear that they follow different trajectories within the overall drinking culture. For the content drinkers, their decision-making around alcohol is to follow and adhere to the rules, norms and values of the culture. This decision seemingly comes to be without incident or consequence, and is not altered over time. However, the conflicted drinker's social experience and trajectory within the culture is marred by internal conflict, social costs and uncertainty. It was, therefore, decided to pursue an understanding of the conflicted drinker's decision-making process within this final theme. By focusing on this sub-group within drinking culture, it is envisaged that more could be learnt about a group of students who are a more likely target for an alcohol intervention.

Coping strategies

The conflicted drinkers initially developed coping strategies to navigate and manage the drinking culture. The main strategies which the conflicted drinkers used to manage lower levels of alcohol consumption or not attending on a Wednesday were excuses, avoidance and escape. A range of excuses were described including university work or timetable, employment and those on an athletic scholarship. However, the athletes acknowledged

that the excuses used had to be of good quality and stand up to the scrutiny of senior team members. The need to have an excuse for non-drinking and in particular a legitimate excuse is consistent with previous literature involving undergraduate students and amateur athletes alike (Fuchs & Le Hénaff, 2014; Hallett et al., 2014).

During a sports night, the conflicted drinkers would be selective with whom they spent their time, often ignoring and avoiding team members who they thought would enforce the drinking rules, as Participant 4 explains:

“you have to approach different people in a certain way, definitely when they’re drinking, especially one of my best friends, who’s social sec, I kind of try and stay away from her like, she’ll be like ‘down it’ and I’ll be like ‘no’, and she’ll get annoyed with me but because she’s like my best friend, I’ll be like ‘I don’t want to do that, so why are you telling me to do that’”.

Alternatively, if avoidance strategies were not successful, some of the athletes would find a way to escape from the drinking environment. Some athletes pretended they were going to return, however often left and went home, whereas as others would take a break as participant 10 said she did *“we start playing a game I don’t like, I will discretely go to the toilet or I will get a phone call or something like that just to get, like remove myself”*.

The conflicted drinkers had also devised several practical strategies to create the illusion that they were drinking at the desired level or at least to give the outward appearance that they were engaging in the culture. For example, drinking out of a sports water bottle, where the contents could not be determined, thus pretending they were drinking alcohol. This included the advice to *“always having a can in your hand”*, regardless of whether there was intention to drink the contents of the can. Conflicted drinkers also advised not drawing attention to oneself to avoid arousing suspicion of non-drinking:

“if you just keep your head down and don’t involve yourself that much then, if you don’t force it on other people, I think sometimes people won’t force it upon you, if you’re saying ‘why aren’t you drinking that’ but they’re drinking and you’re not, it doesn’t go down well, I think keeping quiet definitely, definitely helps keeping your head down basically” (P7)

Consistency or a regular pattern of behaviour was deemed a helpful approach, so one’s teammates could begin to understand or accept non-drinking behaviour;

“it becomes something that gets easier you know, once you’ve done it once or twice, it’s kind of like you didn’t do it last week, you don’t have to do it this week...if you do it regularly or if you don’t do it regularly it can become a little bit easier to maybe for them to accept”

Conflicted drinkers also acknowledged that over time, including the longer a sports night went on, as the academic year progressed and when they became a senior, their teammates would become less interested in others’ drinking and team members were able to opt out of the cultural rules.

Although the coping strategies described by the conflicted drinkers were useful in managing the challenges posed by an immediate drinking session or in the short term, the conflicted drinkers each described coming to a realisation that such strategies were not viable for the long term. As participant 17, a conflicted drinker, describes below she had reached a turning point where she had to make a conscious decision to adapt her behaviour to cope within the culture;

“I think to begin with I didn’t really consider it because I thought ‘it’ll be fine like I’ll just go in and everything will be fine’, but then I realised actually I need to sort this out, like I need to make an effort to belong in this team, I am going to be with these girls every day training, playing, I need them to want to play for me and I need to want to play for them on the pitch...then it was like right I need to, it did become a priority and I’d like make a conscious effort to fit in and like make friends and get rid of this (teammates’ negative opinion of her)” (P17)

Drink more

Within the sub-group of conflicted drinkers, two different approaches were taken. The first approach adopted by participants 4, 5, 7 and 10 was to alter their previously lower drinking habits and increase their alcohol intake to adhere to the drinking culture described in theme one and gain access to the social benefits reported in theme three. Subsequently, at the time of being interviewed these athletes had hazardous and harmful scores on the AUDIT as displayed in Table 5. The increase in their alcohol intake involved learning how to drink the way content drinkers did and to develop the drinking skills necessary to perform drinking challenges;

“oh on tour like funneling, I just hated funneling. I don’t like it, but I learnt to funnel on tour because I wanted to be socially, like I want to be accepted

and them to be like 'ah we're really proud of you, you learnt to do that'. I definitely have changed, which I look back and I am like that's stupid, but I don't regret doing it at all, I am fine with that" (P4)

These particular conflicted drinkers made a conscious decision to change their drinking behaviour in order to access some of the social benefits such as feelings of fitting in, belonging and acceptance;

"I would never have drunk a two-litre bottle of cider, I just think that's stupid. But to gain respect I did it, because I wanted to and then doing shots and stuff and downing your drink, I would try as much to down my drink. So yeah I definitely altered my drinking to try and feel social accepted" (P4).

Over the course of her interview, participant 5 described her social experiences moving between the first and second team, and that she had initially increased her alcohol intake in an attempt to fit in with the stronger drinking culture;

"To start off with last year erm I wasn't very confident and I just didn't want to drink because I don't know something about last year I was quite pessimistic, erm I didn't want to, so for the first two (socials) I got absolutely drunk and then felt really uncomfortable drinking for a long time after that, because I had forgotten how I got home and going out and leaving pre's and it just. So, that really affected how much I drank last year and still now it affects how much I drink, I always try and stay sort of just before that line (P5)".

However, upon joining the second team, participant 5 reported that she had been able to regulate her alcohol intake and was now able to access a range of social benefits;

"I think this year there's been a lot more positives just like team bonding has been a lot better and like and because you a bit drunk you're a bit more open and you sort of hand out hugs and things like that within the team and small things like that, make a difference and erm sort of deep chats whilst your walking to the club and things like that make it a positive experience" (P5).

Participant 10 reported that over the course of her first year at university and as a member of her sports team she gradually increased her alcohol intake and would now consume

spirits and mix alcohol drinks on a night out. Participant 10 described the impact of her choice to drink alcohol in front of her teammates for the first time;

“the whole refusing to drink to begin with kind of set me back a bit but then as I started to actually, I actually gained more respect because when we played at (place name) I drank in front of them for the first time and they were like ‘yes P10, like you’re finally getting into it’ and I was kind of like ‘that’s not quite what I wanted to be like congratulated on, I just played a really, really good match’”.

Strategic social effort

The second approach taken by participant 8 and 17 was to make an effort through alternative social means and occasionally drink alcohol with their team. Participants 8 and 17 described this as being on their own terms, something they realised and decided to do;

“I think maybe that it did get to me a little bit, so yeah I would say it bothered me, which is maybe why I’ve made more of a conscious effort this year to be more involved” (P8).

Participant 8 described deliberately going to the gym with her teammates and going to the student’s union for food or a drink (*“a pint”*) after training and matches. This would enable her to chat to her teammates and spend time with them. However, participant 8 acknowledged that this did come at a price, making a sacrifice around her academic work:

“I’ve like made more so of a conscious effort, even when maybe I’ve had other things to do like, to like stay involved in things other than the Wednesday night, whatever it might be, erm like even when I could have been doing work or whatever I’ve just thought for the sake of an hour and half its worth it in the long run for just to be more included and more happy in myself and it makes it a lot easier for me to motivate myself to go” (P8).

Participant 17’s approach was to go out with her team on specific occasions, including having breakfast with her teammates after morning training sessions and prioritizing certain nights out;

“I’ll go out every now and again, big nights for example like sports ball or Christmas, or for a bit if we’ve had a game, like a really tough game and we’ll go out and celebrate. I’ll prioritise certain night and other nights I just won’t go because I want to sleep, I want to like see my boyfriend” (P17).

As a result, participant 8 described she was able to take part in more conversations with her teammates. Participant 17 also felt more comfortable:

“so when I actually started going out and actually making friends with them and making a conscious effort like with them, we’d have a laugh, it would just be much sort of light hearted and I just don’t know felt more comfortable, erm and then like in the gym I’d help people out and we’d just have a laugh and like you just get treated the same as everyone else did, so I think that’s kind of, I just felt so much more comfortable, people would text me or we’d go out and like do stuff”

However, participant 17 did acknowledge that she didn’t have best friends on the team *“so I don’t really have like, I have a few good friends within the team, but I wouldn’t say like best friends”*.

Drop out

A final option or approach, to *“drop out”*, was described during the interviews by both student-athletes who were content and conflicted drinkers. None of the athletes interviewed in this study had dropped out or left their chosen sport, however the student-athletes referred to others who had done so:

“there’s been a few like drop outs, so at the beginning someone after the first match, it was a fresher she decided she didn’t want to play anymore, I think it was partially to do with the drinking, partially to do with the money as well” (P9)

“some people drop out...they’re just a bit too quiet and like they might find maybe never really drank at all in their life and maybe like they found it quite hard” (P6)

Although, dropping out was an extreme case, the student-athletes talked about these athletes like ghosts, not being able to recall specific information about these people or the events that led up to their dropout. Instead, referring to individuals that had once been there but were no longer part of the team. During her interview, participant 5 did describe taking some time out of her sport due to social pressures and the drinking culture;

“I played ones up until just before Christmas and then I sort of gave up hockey for a while, I would just go when I felt like it, because I didn’t really want to be a part of it (drinking culture) and that was maybe until end of

February and then I started with the twos again after that, so I didn't really get that much time with the twos last year, whereas I started in the twos this year and I've been with the twos the whole time and it's felt a lot better" (P5).

Participant 5 attributed being more comfortable in the second team due to senior players leaving as they had finished university and that the cultural rules around drinking had been relaxed or calmed down, where individual players could choose their drinking behaviours and freshers were not “*forced to drink*”.

Within this final theme, it is clear that both the content and conflicted drinkers are aware of the social benefits of drinking heavily and the social costs of not following the cultural rules. This awareness creates conflict for athletes who are not comfortable with drinking at hazardous and harmful levels. The conflicted drinkers find it difficult to navigate and manage the culture in which they find themselves. Consequently, these student-athletes describe trying various strategies to cope, but the majority end up conforming and drinking more alcohol than they want to. By conforming to the drinking culture, the conflicted drinkers are able to experience some social benefits but they also continue to endure social costs. Importantly, the conflicted drinkers are seemingly unaware that others may be simultaneously struggling to cope within the culture.

4.4 Concluding remarks

The main aims of this study were to explore the role of alcohol in the social experiences of student-athletes and capture more in-depth information on the relationships between alcohol use, social belonging and popularity found in study one. On the basis of findings from study one and previous literature, team sport student-athletes were identified as information rich cases who could provide insightful and detailed answers to such research questions. After engaging in the thematic analysis of semi-structured interviews with 17 student-athletes, six main themes were generated. These six themes described the drinking culture across sports teams, the social experiences of the student-athletes within this culture and their resultant decision-making process involving alcohol use.

Overall, the student-athletes interviewed provided a novel and detailed insight into the role of alcohol, social belonging and popularity within their social experiences. In particular, the student-athletes demonstrated that they are highly aware of the social benefits of heavy drinking and the social costs of not drinking alcohol, and that they make rational, strategic decisions about their drinking behaviour based on these costs and benefits.

The student-athletes interviewed described a strong, inescapable drinking culture within their sports teams. Within the drinking culture, heavy and high-risk drinking was a socially accepted, valued and desirable behaviour. The culturally prescribed level of alcohol consumption was facilitated through initiation ceremonies and drinking challenges, and the drinking rules were defined and enforced by student-athletes who occupied clearly defined roles within the social hierarchy.

By following the cultural rules, student-athletes were able to achieve social success within their sports team. Student-athletes perceived there were social benefits to heavy alcohol consumption, such as smooth integration into the team, formation and maintenance of intimate, supportive relationships, and the opportunity to gain social status and notoriety among student-athlete peers. While significant social costs and penalties were associated with not drinking, such as social exclusion, isolation, discomfort and a lack of enjoyment when spending time with teammates. Student-athletes who chose not to drink or only drank low levels of alcohol endured a negative reaction from their teammates, and were subject to alternative cultural rules which were unrealistic.

The findings of this study demonstrated that student-athletes were aware of these powerful social costs and benefits, and weigh up the costs and benefits when making decisions about alcohol consumption. Of interest, this study revealed that individual student-athletes make different decisions about how they negotiate the social costs and benefits of their drinking behaviour. For example, the majority of the student-athletes chose to drink at hazardous and harmful levels to access social benefits and avoid the social costs. This was typified by the social experience of the content drinkers, who embraced the drinking culture, were able to access social benefits, and perceived there were very few physical risks to heavy alcohol consumption.

Alternatively, the awareness and experience of social costs created conflict for some student-athletes who were not comfortable with drinking at hazardous levels, yet still wanted to successfully integrate into their sports team. These student-athletes, referred to as conflicted drinkers, attempted to navigate the culture without conforming to the drinking rules. Instead, the conflicted drinkers adopted various coping strategies to manage their social experience with their teammates, but this was difficult given the strength of the culture and often resulted in failure. Ultimately, the conflicted drinkers had to make a tough decision about whether to increase their alcohol consumption to achieve social benefits, adopt an alternative social approach to minimise the impact of social costs or, in extreme cases, leave the team altogether.

However, the most novel finding within this study was the social costs associated with heavy drinking. Despite the widely held perception that student-athletes who drank heavily were socially accepted and the most popular, student-athletes also admitted there are insidious and unspoken social costs to drinking heavily hidden within the culture. Student-athletes described negative feelings and attitudes towards their teammates who drank to excess, which resulted in their secret avoidance of the heaviest drinkers on a Wednesday evening. This suggests that in reality, extreme drinking behaviour incurs social costs and therefore perceptions of popularity may not be entirely accurate. There is a need to examine this discrepancy further, as there is the potential to challenge any inaccurate perceptions with socially focused alcohol interventions.

As with all research studies, this study is not without limitations. Despite attempts to appeal to student-athletes who drank across a range of levels, there was considerable difficulties in recruiting student-athletes who were low-risk drinkers or abstained from alcohol use. However, as illustrated by the findings here these students are likely to be difficult to recruit because they have left their sport or increased their alcohol intake to access social benefits. In addition, the researcher had also intended to achieve a more balanced representation of student-athletes across the sports teams of interest. Nevertheless, the student-athletes from the sports of water polo and netball provided ideal divergent and comparative cases at times during the analysis. Finally, as highlighted in study one, a similar caveat should be noted regarding the classification of student's AUDIT scores into the four risk categories based upon a single, one-off measurement. In particular, previous research has highlighted that the alcohol consumption of student-athletes fluctuates throughout the academic year and competitive season, for example student-athletes report reducing their alcohol intake at times of important athletic competitions (Martens, Dams-O'Connor & Duffy-Paiemen, 2006; Nelson & Weschler, 2001).

In conclusion, alcohol plays a complex role in the social lives of student-athletes. Drinking is an inescapable part of the culture surrounding team sport at university, and student-athletes make decisions about their alcohol use based on their awareness of the social costs and benefits available. However, this study also illustrated that the relationship between heavy alcohol consumption and social benefits is not as black and white as first thought. There are some social costs, albeit hidden social costs, associated with drinking heavily within social groups at university. There is need moving forward in this thesis to further explore such hidden social costs of alcohol use and how this may relate to popularity.

Chapter 5 - Study 3: Alcohol consumption of student-athletes: Associations with sociometric and perceived popularity in team sport

5.1 Introduction

Studies one and two explored the role of social belonging and popularity in the alcohol consumption of a sample of UK university students and student-athletes. Study one found that the need to be popular, a social motive, and social belonging, a social consequence, may offer some explanation for student alcohol consumption. Findings revealed that students with a greater need to be popular drank at hazardous, harmful and probable dependence levels and that those who drank the most enjoyed the highest levels of social belonging. Given that the relationship between alcohol consumption, need for popularity and social belonging were likely to be complex and social situated, study two sought to gain more clarity by exploring students' lived experiences in relation to alcohol consumption within a defined social group (team sport).

Findings from study two demonstrated there were clear social benefits associated with drinking heavily, such as being able to smoothly integrate in one's sports team, maintain intimate friendships and occupy a position of social status and notoriety. Social costs were also associated with not engaging in alcohol consumption, including social exclusion, loneliness and being subject to the angry and negative reaction of one's heavy drinking teammates. Student-athletes were motivated to follow the cultural rules and consume alcohol to attain social benefits and avoid the social costs. The heaviest drinking team members were perceived to be able to access the most social benefits, including high levels of social status and notoriety, and were referred to as being the most popular within their sports team. However, unbeknownst to these heavy drinking student-athletes, they were secretly disliked and avoided by their teammates. Whilst publicly endorsing heavy drinking behaviour, privately their teammate felt that their peers who drank the most were annoying and a burden or nuisance on a night out, preferring to socialise with those who drank at less extreme levels. The findings of study two, therefore, revealed hidden social costs associated with drinking heavily, which were not explicit within the wider culture.

Findings from this thesis so far suggest that heavy drinking appears to have multiple and contradictory implications for the establishment and type of social relationships between members of sports teams. The findings also highlight the complexity of popularity, both as a construct and in terms of how it is specifically related to alcohol use within student-athlete

culture. There is a need to further explore and understand the dichotomy that heavy drinkers are seen as popular, with social status and influence, yet heavy drinkers may not be liked and are secretly avoided. In order to explore this dichotomy in more detail, the third and final study of thesis looked to ascertain how group members rate one another socially, using a more sensitive and specific measure of popularity. The use of sociometric approach was identified as means through which this could be achieved.

Sociometry is an approach designed to measure relationships between group members, with a focus on exploring social status, social structure, prestige and power, as well as acceptance and rejection by peers (Sabin, Mihai, & Marcel, 2014). This type of research does not report on formal group structure or official hierarchies, but instead documents the interpersonal choices of individuals (Treadwell, Kumar, Stein, & Prosnick, 1998). Group members are asked to nominate peers based on social criteria of interest such as liking, popularity, trust or friendship (Jones, 2006). Each group member's preferences produce a network which can subsequently be displayed in a sociogram, "a systematic method for the graphical representation of individuals and relations between them" (Lusher, Robins, & Kremer, 2010, p. 213). Sociometric techniques are powerful as they can show a global view of the network, as well as individual positions in that network (Valente, Gallaher, & Mouttapa, 2004).

Social network analysts have subsequently advanced the sociometric approach by developing specialist computer software and applying a branch of mathematics (Graph Theory) to social network data (Prell, 2012). This means that large networks involving hundreds and thousands of people can now be visualised and analysed mathematically using social network measures (Jones, 2006). There are numerous social network measures which can statistically analyse the individuals who are the most connected or centrally located, and those who are isolated within a network (Prell, 2012). Valente et al. (2004) argue that human behaviour is influenced by those people they come into contact with and their position in the overall social structure. It is increasingly recognised that an individual's social circles are key determinants of behaviour and that social network approach can provide a promising insight into peer influences relating to health behaviours, including substance use behaviour (Valente et al., 2004).

For the purposes of this study, popularity was the social criteria of interest. As discussed in Chapter 3, although popularity is a widely accepted social construct, used both in everyday life and research; defining popularity has been problematic (Bukowski, 2011). The term popularity is most often used when referring to how much a person is liked or disliked by peers, and also how much status or notoriety the person has in the group

(Bukowski, 2011). However, whilst 'liking' and 'status' are often used interchangeably, research has suggested that these terms are in fact distinct (Cillessen & Marks, 2011). This distinction is reflective of two traditions in popularity research: sociometric popularity and perceived popularity.

Sociometric researchers tend to define popularity as being well liked, accepted or preferred as a friend (Cillessen & Marks, 2011; Parkhurst & Hopmeyer, 1998). Sociometric popularity is said to reflect emotional judgements of likeability which are not necessarily shared by others in the group (Cillessen & Marks, 2011). This particular measure of popularity tends to be associated with positive characteristics such as cooperation and honesty (Parkhurst & Hopmeyer, 1998). Individuals who are sociometrically popular can be identified in two ways, simply by looking at who has received the largest number of positive "like most" nominations from their peers or by computing social preference scores, subtracting peer dislike from peer liking, to acknowledge that those who are socially preferred received many liking nominations and very few disliking nominations. This also permits individuals to be classified into other groups on this dimension, for example rejected, controversial, neglected and average (Coie, Dodge, & Coppotelli, 1982). This study will adopt the strategy of computing social preference scores because it provides a means of categorising individuals into clearly defined groups and takes into consideration "like most" and "like least" nominations.

In contrast, the focus within the perceived popularity tradition tends to be on the individual's perception of their own and others popularity (Parkhurst & Hopmeyer, 1998) and reflects reputational judgements of who is the most popular and least popular in the peer group (Cillessen & Marks, 2011). These reputational judgements tend to be based upon perceptions of visibility, power and prestige, as opposed to likeability (Guyl et al., 2014). Whilst perceived popularity may be associated with some positive characteristics, this definition of popularity has also been linked to risky behaviours (Schwartz & Hopmeyer Gorman, 2011) and to negative characteristics such as aggression, a lack of kindness and being 'stuck up' (Parkhurst & Hopmeyer, 1998).

Among middle school children from the US, Parkhurst and Hopmeyer (1998) found that children identified as popular by sociometric measures and children identified as perceived to be popular by peers were actually different groups. For example, the children perceived to be popular included a number of students who, based on sociometric measures, were classified as rejected (Parkhurst & Hopmeyer, 1998). Additionally, those who were sociometrically popular were identified as kind and trustworthy by their peers. Whereas, perceived popularity was correlated with the less positive characteristics of social

dominance aggression and self-importance. Therefore, Parkhurst and Hopmeyer (1998) concluded sociometric popularity and peer perception of popularity are distinct dimensions.

The contention of Parkhurst and Hopmeyer (1998) has subsequently been supported in more recent research. Lafontana and Cillessen (1999) confirmed that perceived popularity was a distinct construct from sociometric popularity among middle school children, where only a moderate correspondence was found between the two categorisations. Košir and Pečjak (2005), who examined the relationship between sociometric and perceived popularity across different age groups of children and adolescents found, that although the two constructs were associated at aged 11 to 14 years, by 15 to 18 years old the constructs were completely unrelated. Litwack, Aikins, and Cillessen (2012) found different associations between the two types of popularity, friendship characteristics, depressive affect and self-esteem among 8th graders (13 to 15 years olds). Sociometric popularity was related to more reciprocal friendships and lower rates of conflict, whereas perceived popularity was linked with both friendship support and conflict (Litwack et al., 2012). Finally, Lansu and Cillessen (2012) examining the peer status of Dutch university students aged 18 to 25 years old found that students were able to consciously discriminate between sociometric and perceived popularity. In this instance, perceived popularity was related to power and receiving attention, and sociometric popularity was related to prosocial leadership (Lansu & Cillessen, 2012).

Based upon the above conceptual and empirical distinctions that have been established between sociometric and perceived popularity, for the purposes of this study it was decided to follow the recommendations of Cillessen & Marks (2011) to treat the two constructs as distinct and to label them accordingly. The term 'sociometric popularity' is therefore used to refer to judgements of likeability, and the term 'perceived popularity' is used to refer to reputational judgements i.e. visibility, prestige and power in peer group. Both constructs are explored in this study.

5.1.1 Popularity dimensions & alcohol consumption

Thus far, it can be seen that existing popularity research originates and is dominated by studies involving children or adolescents. Previous literature exploring popularity and alcohol behaviour follows this trend with the majority of studies focused on initiation of alcohol use in adolescence (Balsa et al., 2011; Tucker et al., 2011; Van Ryzin, DeLay, & Dishion, 2016). However, there are some more recent studies involving university students and young adults (Dumas, Wells, Flynn, Lange, & Graham, 2014; Lorant & Nicaise, 2014; Phua, 2011). Furthermore, existent literature on popularity and alcohol is varied in terms of the dimension of popularity examined. For example, some studies use a single measure of

popularity, studying either sociometric or perceived popularity, whereas other pieces of research have looked at both dimensions.

5.1.2 Sociometric popularity & alcohol consumption

Among US middle school children, with an average age of 12 years old, being well liked or in a position of sociometric popularity predicted use of alcohol of within the last month (Van Ryzin et al., 2016), with those who were the most liked more likely to have consumed alcohol. Similarly, Balsa et al. (2011) found that adolescents who had consumed alcohol within the past 12 months were sociometrically popular and socially rewarded with popularity for conforming to their peers' alcohol use. Interestingly, however, adolescents who increased their consumption above that of their peers were penalised with lower levels of popularity. In males, the received social rewards were for keeping up with peer drinking and for getting drunk, whereas females were rewarded for drinking per se, but not for keeping up with peers. These findings indicate that adhering to peer levels of drinking may enhance sociometric popularity, but consumption above group norms could lead to social rejection (Balsa et al., 2011).

Some sociometric studies of popularity have included self-rating of popularity as well as peer nomination. Tucker et al. (2011) found that middle school children (average age 12 years) who scored higher on peer nominations and self-reported popularity were more likely to be life smokers, drinkers and marijuana users, as well as past month drinkers. Sociometric and self-rated popularity was associated with substance initiation, as well as current use of alcohol. Of significance to this study, a curvilinear relationship was observed where moderately popular students (sociometric) were more likely to be heavier drinkers than highly popular or unpopular students when popularity was assessed via peer nominations but not when it was assessed by self-report.

5.1.3 Perceived popularity & alcohol consumption

Previous research has also examined the substance use, including alcohol, of those individuals who are perceived to be popular. In a series of studies involving young adults in Canada, Dumas and colleagues identified that men and women who drank alcohol more frequently were nominated as occupying higher-status positions in natural drinking groups than their peers who drank less (Dumas, Graham, Bernards, et al., 2014). In a second study, Dumas, Wells, et al. (2014) recorded that those perceived as high status consumed more alcohol, became more intoxicated and encouraged others to drink. Finally, when just focusing on male students, Dumas, Graham, Maxwell-Smith, and Wells (2014) documented that those students with high perceived group status were at heightened risk

of responding aggressively when provoked in drinking establishments. However, these studies by Dumas and colleagues used a composite measure of group status where perceived popularity was one of four status related dimensions included. Thus, it is difficult to isolate and comment on the relationship between perceived popularity and alcohol use.

5.1.4 Social network analysis & alcohol consumption

Existing studies have also looked at alcohol consumption using social network analysis. In these instances, sociometric techniques are used to generate a social network from peer nominations and then the network is statistically analysed using the metrics of interest. There are numerous social network metrics or measures (i.e. betweenness, closeness & centrality), the specific details of which are out with the focus of this literature review. However, the social network measure of most relevance to this study is in-degree centrality. When a social network has been generated using liking or friendship nominations, social network analysts can calculate in-degree centrality as measure of prestige and popularity, and compare this across multiple social networks (Prell, 2012).

When conducting a longitudinal study of the smoking and drinking behaviours of US college fraternity members, Phua (2011) found that popularity as measured by in-degree centrality significantly predicted smoking and drinking behaviours. Popularity was strongly associated with drinking, where the more popular a member of the network was, the more likely that individual was to be a heavier drinker. However, this relationship was found to be mediated by conforming to peer group drinking norms. Using in-degree centrality as a measure of popularity, Lorant and Nicaise (2014) identified that social position had an important effect on the risky drinking of Belgian university students, where occupying a central position in the network put students at greater risk of binge drinking. Students who have cohesive friendships, where their peer nominations were reciprocated, were more likely to binge drink than those who had unreciprocated friendship choices (Lorant & Nicaise, 2014).

Gallupe (2013) incorporated sociometric popularity and in-degree centrality into his social network analysis study examining the effects of popularity on alcohol consumption in adolescents. A positive relationship was identified between alcohol and social status up to two to three days per month of using of alcohol, however adolescents who drank higher levels of alcohol were linked with lower levels of social status. Thus, Gallupe (2013) concluded that a moderate level of alcohol use is socially valued among adolescents and this level of drinking may be motivated by a desire for social status. In contrast, drinking at higher levels could damage social standing and may be more closely related to attempts to deal with depressive symptoms than to gain status (Gallupe, 2013).

In the only study of its kind, Killeya-Jones, Nakajima, and Costanzo (2007) completed a social network analysis study involving both sociometric and perceived popularity measures to document the changes in alcohol and smoking behaviour of 13-year olds in the US over the course of the academic year. In the fall term, adolescents who drank alcohol were more central in the network, rated by their peers as more sociometrically popular and had higher perceived popularity than abstainers (Killeya-Jones et al., 2007). In the spring term, there was no difference between alcohol users and abstainers on sociometric or perceived popularity. This may be due to changes in participants' alcohol intake between the two-time points, with half of alcohol users in the fall term no longer reporting current alcohol use in the spring term (Killeya-Jones et al., 2007). However, those who had used alcohol in the fall term were able to maintain their position in the network regardless of whether they were still using alcohol in the spring term (Killeya-Jones et al., 2007). Thus, the timing of regular use of alcohol may be important for adolescents.

5.1.5 Sport, sociometry & social network analysis

The use of sociometric measurement and social network analysis in sport is limited (Lusher et al., 2010). Over a decade ago, Smith (2003) described that sociometry was a potentially useful but under-utilised method when studying peer dynamics related to physical activity and sport. Sports teams, in particular are ideally suited to social network investigation because they are well-defined social groups, with a clear boundary and shared purpose (Lusher et al., 2010). Social network analysis has been used to examine athlete leadership and cohesion across different sports teams (Loughead et al., 2016; Sabin et al., 2014). Sociometric measurement has been used to assess the emotional-social and functional status of players and to evaluate the atmosphere within premier league volleyball teams (Vojvodić & Jovanović, 2014). Sociometric status has also been linked to sport competence, with popular athletes on adolescent volleyball teams receiving significantly higher peer competence ratings than average athletes (Vierimaa & Côté, 2016). Dunn, Dunn, and Bayduza (2007) looked at links between sociometric status, athletic competence and loneliness in elementary school children. Sociometrically popular children reported less loneliness and received higher athletic ability ratings from peers than rejected children.

To date, only two sociometric studies have explored popularity and alcohol use within a sports setting. Storch, Werner, and Storch (2003) explored the relationship between aggression and psychosocial adjustment in college athletes, using peer nominations to ascertain levels of aggression and sociometric popularity. Male and female college athletes with higher levels of aggression had higher levels of peer rejection (Storch et al., 2003).

Aggression was positively associated with alcohol use and negatively associated with prosocial behaviour among female athletes only (Storch et al., 2003).

Ali, Amialchuk, and Pentina (2012) conducted a social network analysis study which looked at the influence of alcohol and sport participation on popularity of overweight adolescents in the US. In this instance, popularity was calculated using the social network measures of in-degree centrality and Bonacich Centrality (i.e. social connectedness). Both alcohol use and sport participation had a positive effect on the number of sociometric friendship nominations received, however the adolescents who consumed alcohol were more centrally located in their peer network (Ali et al., 2012). The positive effect of sport on popularity was only present for white males. Ali et al. (2012) concluded that overweight adolescents are likely to drink alcohol to impress their peers because they could experience significant gains in popularity by drinking alcohol.

5.1.6 Summary

When reviewing the existing literature which examines popularity, it is difficult at times to interpret which dimension of popularity is being investigated due to the terminology adopted, with the majority opting to use the term popularity for all measures. Furthermore, some research studies have deviated from the original concepts of sociometric popularity, asking participants to list friends they hang out with (Tucker et al., 2011), who they would like to be in a group with (Van Ryzin et al., 2016) or who they turn to for social support (Phua, 2011). Thus, it is difficult to compare the results of these studies with studies such as Killea-Jones et al. (2007) who have opted to ask traditional sociometric and perceived popularity-based questions. Other research studies such as Balsa et al. (2011), Gallupe (2013) and Ali et al. (2012) have analysed and presented findings from the same large data source collected in the US, the National Longitudinal Survey of Adolescent Health.

In summary, previous research has demonstrated that there is an association between popularity and alcohol consumption, regardless of the measure of popularity used. However, sociometric popularity (i.e. likeability or acceptance) appears to be related to more moderate levels of alcohol use, whereas perceived popularity (i.e. status, prestige and power) and social network measures of popularity are related to heavier patterns of consumption and binge drinking respectively. However, it is difficult to draw firm conclusions on the relationship between types of popularity and student alcohol behaviour because research is still scarce. The research that has been conducted with university students comes from the USA and other European countries, not the UK (Lorant & Nicaise, 2014; Phua, 2011). Adolescents are different to university students and a simple measure of ever having consumed alcohol or use within the last three months may be sufficient at

an age when drinking is illegal or prohibited but a more robust measurement tool may be needed among university students who can legally drink. Where alcohol consumption has been measured, there are very few recognised or reliable measurement tools used, usually opting for one or two brief questions about quantity or frequency of consumption (Balsa et al., 2011; Killeya-Jones et al., 2007; Phua, 2011). This study looked to satisfy a gap in the literature by exploring both dimensions of popularity (sociometric & perceived popularity) among university students in the UK and assess their alcohol consumption and associated harm using a well-known and validated measure.

The purpose of this third and final study was to further explore the relationship between student alcohol consumption and popularity. More specifically, there was a need to use a more sophisticated definition and measure of popularity. Previous research has identified two distinct dimensions of popularity, sociometric and perceived popularity (Parkhurst & Hopmeyer, 1998), of which both could have different relationships with student alcohol use and therefore explain the findings reported in study two. To explore how sociometric and perceived popularity may relate to patterns of student alcohol consumption, a sociometric approach was adopted in this study, collecting peer nominations from student-athletes and subsequently displaying the resulting network data in sociograms.

As team sport student-athletes were identified as the heaviest drinkers on campus in study one and evidence of their drinking culture was documented in study two, sports teams were recruited as the pre-determined groups in this third study. This study goes beyond previous research by combining the examination of two dimensions of popularity, alcohol and sport. Findings of this study have the potential to uncover information relating to peer relationships and how these may be influenced by alcohol consumption. This information may inform social focused alcohol interventions, raising students' awareness of the social consequences of their alcohol consumption. Guided by previous literature and findings of the two previous studies, it was hypothesised that;

- Students who score highly on sociometric popularity will drink at levels in keeping with the majority of their peers
- Students who score highly on perceived popularity will drink at higher levels than those who score low on perceived popularity.

5.2 Method

5.2.1 Participants

74 student-athletes from one UK University participated in this research study ($M = 21.1$ years, $SD = 2.5$, Male $N = 26$). The student-athletes were from five sports teams; men's hockey ($N = 13$), women's hockey ($N = 19$), women's football ($N = 15$), women's volleyball ($N = 14$) and men's basketball ($N = 13$). All of the teams who participated were university first teams, apart from women's volleyball who were the university second team. All participants were over 18 years old and enrolled on an undergraduate ($N = 55$) or postgraduate ($N = 14$) course. No incentives were offered for participation. Recruitment rates were at 95% or above, apart from one sports team (men's hockey), where four team members failed to respond, meaning only 76% of the team were recruited.

5.2.2 Measures

Demographic & Background Information: Participants were asked general demographic questions about their age, gender, ethnicity, religion, degree course, year of study and living arrangements, as well questions about their membership of university sport teams (Appendix 1).

Peer nominations: Participants were asked to complete 10 peer nomination questions in total (Appendix 22). All peer nomination questions began with the phrase "From the list provided" to prompt participants to only nominate from the team roster. Nominations were limited to three team members per question. The focus of these peer nomination questions was on sociometric and perceived popularity, with the first pair of questions asking which team members they liked and disliked (sociometric popularity), and the second pair of questions asking participants to state which team members they felt were most and least popular (perceived popularity). An additional, three peer nomination questions were included in the questionnaire booklet as buffer questions, which adopted themes which arose in study two around bonding and social preference when drinking.

Sociometric status was determined using the classification procedures outlined by Coie et al. (1982). The number of like most (LM) and like least (LL) nominations for each participant are tallied and standardised for each team (z-scores). These scores were then used to calculate social preference ($LM - LL$) and social impact ($LM + LL$). Participants could then be classified into one of the six sociometric status groups using their social preference and social impact scores as shown in Table 6.

Table 6. Sociometric status classification procedures

Sociometric status	
Popular Liked by many, disliked by few	Social preference > 1.0, $z_{LM} > 0$ and $z_{LL} < 0$
Rejected Disliked by many, liked by few	Social preference < -1.0, $z_{LM} < 0$, $z_{LL} > 0$
Neglected Neither liked nor disliked	Social impact < -1.0, absolute LM = 0
Controversial Liked by some & disliked by others	Social impact > 1.0, $z_{LM} > 0$, $z_{LL} > 0$
Average Near to the mean of acceptance & rejection	Social preference > -0.5 and < 0.5
Other	All other participants

Perceived popularity status was determined using Parkhurst and Hopmeyer (1998) classification procedures, which initially involves tallying the number of most popular and least popular nominations for each team member and calculating the difference. As shown in Table 7, three levels of perceived popularity were established by comparing each team member's standardised difference score against the mean difference score for the team.

Table 7. Perceived popularity classification procedures

Perceived popularity status	
High	Team members with a difference score one SD or more above the mean.
Average	Students with a score between one SD below and one SD above the mean.
Low	Students who scored one SD or more below the mean.

Social network measure: In-degree centrality was the network measure calculated in this study. Measures of centrality identify which individual or individuals occupy the central positions in a network (Prell, 2012; Valente et al., 2004). These central positions are associated with importance, visibility, prestige and the ability to influence the spread of ideas and behaviours to others in the network (Prell, 2012; Valente et al., 2004). In-degree centrality, is a statistical procedure, which focuses on the number of times a person has been nominated by peers in their network. Where peer nominations are based in liking and friendship, in-degree centrality indicates popularity. In-degree centrality can be compared

across different networks of a similar size and can still be calculated when a person is available to be nominated but does not complete the survey.

Alcohol consumption: The Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993) was used to measure patterns of alcohol consumption and the associated risks of hazardous and harmful drinking (Appendix 2). Continuous total scores on this measure were used to compare alcohol behaviour for student-athletes in the different popularity status groups and students were categorised into the four risk categories (i.e. low-risk, hazardous, harmful & probable dependence) to display on sociograms.

5.2.3 Procedure

Following institutional ethical approval, permission was obtained to approach university sports coaches and athletes. Initial contact was made with coaching staff or team captains, via email (Appendix 23). Teams who had previously been identified in study one as heavy drinking were targeted, as well as teams where access to all members could be easily facilitated. Data collection took place in second semester, to allow the sports teams time to welcome new members and to form social relationships. An outline of the research was provided initially to the captain or coach, emphasising that participation was voluntary, inviting any questions or concerns and ensuring a data collection session would be arranged with consideration of athletic schedules. Face to face data collection sessions were pre-arranged with each team captain, where the whole team (if possible) were gathered together in one location to complete a paper-based questionnaire. All data collection sessions, therefore, took place before or after a training session at a university sports ground. Any participants who could not or did not attend at this time were invited to attend at an alternative time. Communication with missing athletes was facilitated through the captain and there was no pressure on these athletes to participate. The researcher met with the missing athletes either on a one to one basis or in small groups on campus in a seminar room.

In line with ethical suggestions by Mayeux, Underwood, and Risser (2007), a number of strategies were adopted to address the sensitive nature of the peer nomination process for the student-athletes. Firstly, athletes were reminded that they did not have to take part if they did not want to nor did they have to complete all the questions within the questionnaire booklet, and that they could withdraw from the study at any time. Secondly, participants were reassured that all data collected would be stored and handled in a confidential manner. Thirdly, team members' names were not used during the peer nomination process, instead participants used only the unique codes provided when nominating. Finally, participants were asked not to confer with or distract others, to sit in exam like conditions

whilst completing the questionnaire booklet and not to share or discuss details of their nominations with anyone after the session. The lead researcher was present throughout to ensure exam conditions were maintained and to answer any participant questions. The AUDIT was also placed at the end of the questionnaire booklet as a distraction to the previous sensitive questions (Krosnick & Presser, 2010).

At the start of each data collection session, the researcher addressed the team as a group, providing a brief explanation of the study, stating that the research was focused on alcohol consumption and associated patterns of behaviour, and that the purpose was not to label anyone or cast social judgement. Each participant was asked to read the information sheet (Appendix 24) and provide informed consent (Appendix 25). Participants were given a questionnaire pack, including a sealable envelope and a pen. The questionnaire pack included the demographic questions (Appendix 1), the peer nomination questions (Appendix 22), the AUDIT (Appendix 2) and a team roster. The team roster was obtained in advance of the session from each team captain, an example with pseudonyms shown in Appendix 26. Team member's names appeared in alphabetic order and each member was assigned a unique four-digit code. Participants were then asked to spread out in the available space and to work on their own whilst the questionnaires were being completed. In total, the questionnaire had 33 questions and on average took 20 minutes to complete. Verbal and written instructions were given to participants to provide up to three nominations per question, using only the corresponding unique codes provided for the athletes listed on the roster. Self-nomination was not permitted. Where self-nomination occurred, participants' self-votes were removed from the data set (5 votes). Once participants had completed the questionnaire, they were asked to place their signed informed consent form, questionnaire and team roster back into the envelope and seal it, then hand the envelope to the researcher. Participants were then debriefed. As in study one and two, participants were provided with the contact details of student support services and advised to make a GP appointment if participation in this study had raised any concerns for them.

5.2.4 Data Analysis

Data were handled and analysed in three different computer software programmes; Microsoft Excel, SPSS (v22) and UCINET (v6 for Windows). Each sports team had a separate excel file, where the data from each participant's peer nominations were entered. One binary, asymmetric matrix was produced for each peer nomination question (x10) per team (x5) (Appendix 27). Each matrix was then exported into UCINET, a specialist piece of software for the analysis of social network data. NetDraw (v2) a program for visualising social network data was used to create sociograms (e.g. Figure 12). A sociogram is a visual

representation of the whole social network, comprised of nodes and edges. Nodes are shapes, in this instance squares, which represent each of the individuals present in the network (Valente et al., 2004). The location of each node in the sociogram is dependent upon the nominations he or she receives from others in the network (Killeya-Jones et al., 2007). Edges are the lines connecting the individuals, and in this case the lines displayed use an arrow head to demonstrate reciprocated or unreciprocated peer nominations (Killeya-Jones et al., 2007; Treadwell et al., 1998; Valente et al., 2004). In a similar fashion to the matrices, a sociogram was produced for each of the peer nomination questions for each of the five sports teams.

All other data including demographic information, individual item and total scores for AUDIT were entered into SPSS. Participants were grouped by their sociometric status (popular, rejected, average, controversial etc.) and perceived popularity classifications (high, low and average popularity), so that differences in AUDIT scores could be examined. AUDIT scores were normally distributed; thus, parametric statistics were used. For differences between two or more groups one-way ANOVA's were selected. The level of statistical significance for all tests was set at 1%. Following the advice of Field (2013), Games-Howell was selected as the appropriate post hoc test due to comparison of groups of unequal size. Effect sizes are reported using Partial Eta Squared.

5.3 Results

5.3.1 Alcohol consumption

The patterns of alcohol consumption in the overall sample are shown in Table 8. On average, participants were consuming hazardous levels of alcohol on the AUDIT (Mean = 14.55, SD = 7.1). 27% of the sample were categorised as drinking at levels associated with probable dependence. Of the 13 low-risk drinkers in the sample, only 3 scored absolute 0 on the AUDIT indicating that they had abstained from alcohol in the last 12 months. There were significant differences in AUDIT scores for the different sports teams ($F(4) = 4.162$, $p < .01$), with hockey scoring significantly higher than volleyball.

Table 8. Alcohol consumption in the overall sample in study three

	AUDIT Mean (SD)	Low Risk N (%)	Hazardous N (%)	Harmful N (%)	Probable Dependence N (%)	Total N (%)
Sport*						
Men's Hockey	17.38 (5.11)	0	4 (30.8%)	4 (30.8%)	5 (38.5%)	13/17 (76%)
Women's Hockey	18.05 (5.22)	0	8 (42.1%)	2 (10.5%)	9 (47.4%)	19/20 (95%)
Basketball	12.54 (9.73)	5 (38.5%)	2 (15.4%)	3 (23.1%)	3 (23.1%)	13/13 (100%)
Football	13.87 (6.35)	2 (13.3%)	6 (40%)	5 (33.3%)	2 (13.3%)	15/16 (94%)
Volleyball	9.79 (5.93)	6 (42.9%)	5 (35.7%)	2 (14.3%)	1 (7.1%)	14/14 (100%)
Sociometric Popularity status*						
Popular	14.72 (6.53)	3 (23.1%)	8 (32%)	9 (56.3%)	5 (26.3%)	25 (33.8%)
Rejected	9.40 (6.15)	7 (53.8%)	5 (20%)	2 (12.5%)	1 (5.3%)	15 (20.3%)
Average	17.32 (6.16)	1 (7.7%)	8 (32%)	1 (6.3%)	9 (47.4%)	19 (25.7%)
Other	15.64 (8.09)	2 (15.4%)	4 (16%)	4 (25%)	4 (21.1%)	14 (18.9%)
Perceived Popularity status*						
High	16.57 (5.03)	0 (%)	6 (24%)	5 (31.3%)	3 (15%)	14 (18.9%)
Low	8.33 (6.23)	7 (53.8%)	3 (12%)	1 (6.3%)	1 (5%)	12 (16.2%)
Average	15.52 (7.08)	6 (46.3%)	16 (64%)	10 (62.5%)	16 (80%)	48 (64.9%)
Total	14.55 (7.1)	13 (17.7%)	25 (33.7%)	16 (21.6%)	20 (27%)	74 (100%)
*p<.01						

5.3.2 Sociometric popularity

Using the sociometric classification procedures developed by Coie et al. (1982), 25 (34%) students were identified as popular, 15 (20%) as rejected, 19 (26%) as average and 14 (19%) as other. Only one student was identified as controversial and none of the students were neglected. The single participant who was identified as controversial was removed from any further analysis due to small group size (N = 1). Of the six student-athletes who were team members but who did not participate in this study, three students were classified as rejected, one as neglected, one as average and one as controversial. These student-athletes did not complete the peer nomination process or AUDIT questionnaire, but they were available to be nominated by others due to their membership of the team and appearance on the team roster. Therefore, the peer nominations these athletes received were only included in the matrices and sociograms, for example athlete 1545 in Figure 12.

5.3.3 Perceived popularity

With regard to levels of perceived popularity, 14 participants were identified as high on perceived popularity (19%), 12 as low on perceived popularity (16%) and 48 as average on perceived popularity (65%). Table 9 shows a comparison of students in each of the four sociometric categories and those classified as high, low and average on perceived popularity dimension. Of note, students who were perceived as popular were split between

sociometrically popular (44%) and average students (56%). Students who were perceived as unpopular were mostly rejected students on the sociometric popularity dimension (74%).

Table 9. Proportion of participants in sociometric and perceived popularity dimensions

	<i>High Perceived Popularity N (%)</i>	<i>Low Perceived Popularity N (%)</i>	<i>Average Perceived Popularity N (%)</i>	<i>Total N (%)</i>
Popular	11 (44%)	0 (0%)	14 (56%)	25 (100%)
Rejected	0 (0%)	11 (73.3%)	4 (26.7%)	15 (100%)
Average	1 (5.3%)	0 (0%)	18 (94.7%)	19 (100%)
Other	2 (14.3%)	1 (7.1%)	11 (78.6%)	14 (100%)
Total	14 (19.2%)	12 (16.4%)	47 (64.4%)	73 (100%)

5.3.4 Sociometric popularity and alcohol

When student-athletes were grouped by their sociometric popularity status (popular, rejected, average and other), significant differences were noted in AUDIT scores ($F(3, 69) = 4.17, p < .01, \eta^2 = .15$). Post hoc comparisons revealed that students categorised as average had significantly higher AUDIT scores ($M = 17.32, SD = 6.16$) than those categorised as rejected ($M = 9.4, SD = 6.15, p < .01$). There were no other significant differences in AUDIT score identified on this popularity dimension. Of note, sociometrically popular athletes had a mean AUDIT score of 14.7 ($SD = 6.53$).

5.3.5 Perceived popularity and alcohol

When participants were grouped by perceived popularity status, significant differences were observed in AUDIT scores ($F(2, 71) = 6.46, p < .01, \eta^2 = .15$). Post hoc comparison revealed that participants who were perceived to be unpopular had significantly lower AUDIT scores ($M = 8.33, SD = 6.22$) than those who were perceived to be popular ($M = 16.6, SD = 5.03, p < .01$) and of average popularity ($M = 15.52, SD = 7.08, p < .01$). No significant differences were observed between the AUDIT scores of student-athletes who were rated as average and perceived to be popular on this dimension.

5.3.6 Sociometric popularity, perceived popularity and alcohol

Of the total sample, 14 students were sociometrically popular but not perceived to be popular and 11 students were high on both sociometric popularity and perceived popularity. These groups were compared to each other and a comparison group of 18 students who

were found to be average on both popularity dimensions. There were no significant differences in AUDIT score when student-athletes were grouped in these three groups, ($F(2, 40) = 3.09, p = .057$), however of note student-athletes who were rated as popular ($M = 17.55, SD = 5.2$) and average ($M = 17.5, SD = 6.3$) on both status dimensions had harmful AUDIT scores. Whereas, student-athletes who were possessed sociometric popularity only had AUDIT scores within the hazardous category ($M = 12.5, SD = 6.8$).

5.3.7 Sociograms

Four sociograms are shown within this chapter; they represent the networks produced for sociometric and perceived popularity peer nominations for two sports team. All other relevant sociograms produced pertaining to sociometric and perceived popularity are included in Appendix 28, Appendix 29 and

Appendix 30. AUDIT categories are denoted by a traffic light colour key, with nodes belonging to low risk drinkers shown as green through to probable dependence drinkers shown as red. The size of the node denotes in-degree centrality.

Figure 11 and Figure 12 shows the distribution of female hockey athletes based upon their peer nominations for sociometric and perceived popularity respectively. Of note, there are no low risk drinkers within this sports team, thus no green nodes are present in either sociogram. Figure 11 shows a clear cluster of red nodes, off to the left-hand side of this sociogram, which is made up of six athletes who are drinking at levels associated with probable dependence. The most central node, 1722, is a member of this group who drink at probable dependence levels. There is also a smaller cluster of hazardous drinkers, shown in yellow towards the top right-hand corner of the sociogram, who are connected to one another.

This is in stark contrast to Figure 12, where those who are perceived as the most popular and drink at probable dependence levels appear in the centre of the sociogram. Athlete 1492, a dependent drinker is the most central node. In Figure 12, the majority of the yellow nodes, hazardous drinkers, are on the outer reaches of sociogram and therefore of the overall social network. Athletes 1433, 1467, 1337, 1183, 1889 and 1233 are isolates in this network, who offer peer nominations about who is the most popular but received very few, if any nominations in return (Treadwell et al., 1998). Athlete 1545 did not participate in this study; thus, her node is coloured grey because her AUDIT score was unavailable.

However, the sociogram shows that she received very few sociometric nominations and no perceived popularity nominations.

Figure 11. Ladies hockey sociometric popularity sociogram

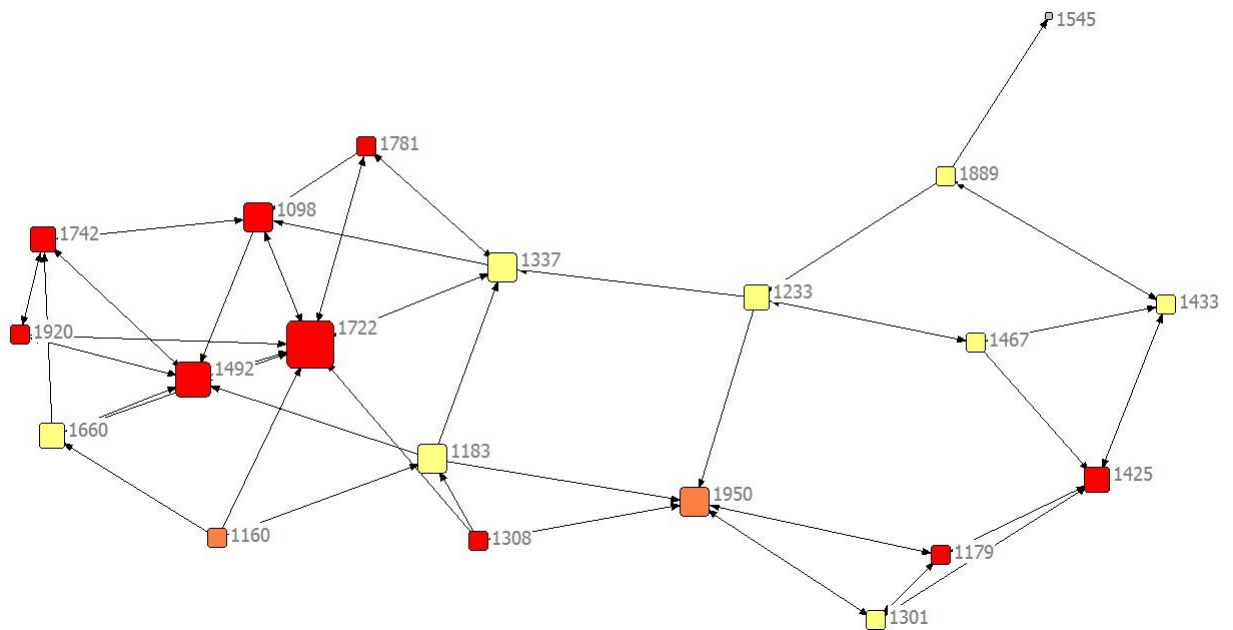


Figure 12. Ladies hockey perceived popularity sociogram

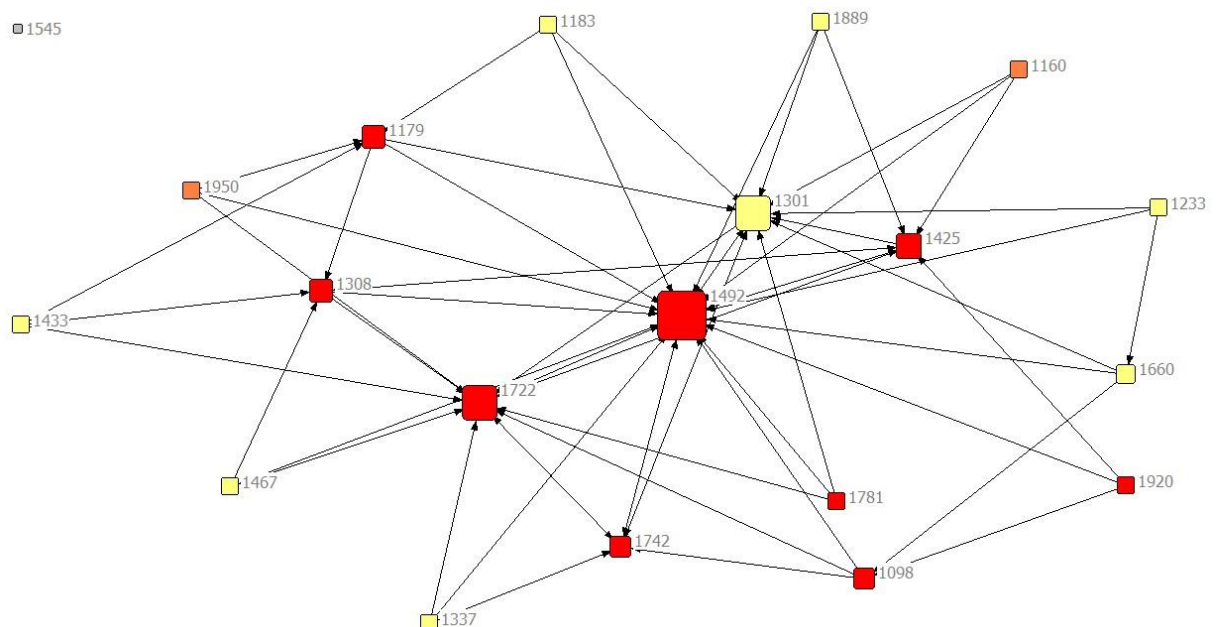


Figure 13 and Figure 14 show the distribution of athletes in the men's basketball team by sociometric and perceived popularity peer nominations respectively. In Figure 13, the four most central nodes (3614, 3873, 3987 and 3485) are athletes who drink alcohol across the

four different AUDIT categories. This suggests that sociometric popularity may be unrelated to alcohol consumption in this team. In a similar fashion to Figure 13 shows athletes who drink within the same AUDIT category offer reciprocal nominations, for example 3614 and 3284 who are dependent drinkers and 3307 and 3873 who are low risk drinkers. Alternatively, in Figure 14 the three most central and popular athletes all consume alcohol and the low risk drinkers, the green nodes, have moved to the outer positions in the network.

Figure 13. Men's Basketball Sociometric Popularity Sociogram

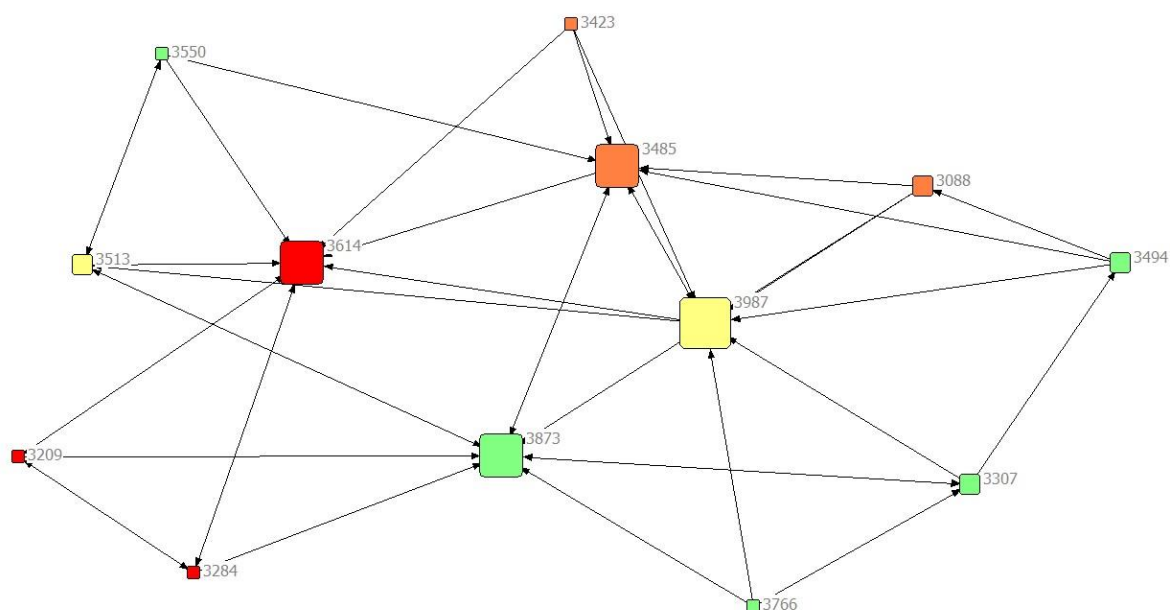
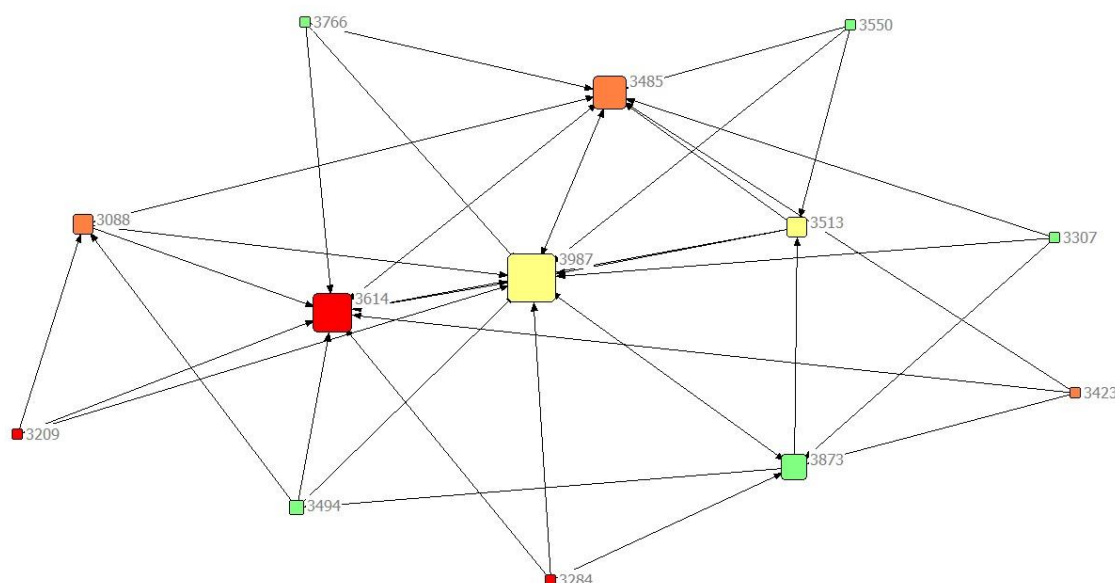


Figure 14. Men's Basketball Perceived Popularity Sociogram



5.4 Discussion

The final study of this thesis aimed to further explore the relationship between student-athlete drinking behaviour and popularity. More specifically, this study aimed to explore the dichotomy established in study two, where heavy drinkers were viewed as popular, occupy positions of social status and influence, yet were considered a nuisance and secretly avoided by their peers on a night out.

A review of the sociometry and social network analysis literature identified that there are two dimensions of popularity, sociometric and perceived popularity. Sociometric popularity represents individuals who are well liked, social accepted and preferred as a friend (Cillessen & Marks, 2011; Parkhurst & Hopmeyer, 1998). Whereas, perceived popularity reflects reputational judgements which are based on visibility, power and prestige (Guyll et al., 2014). In contrast to existing literature, this study looked to explore how both dimensions of popularity, sociometric and perceived popularity, may relate to the alcohol consumption among a sample of student-athletes.

With regard to alcohol use, student-athletes in this study were drinking at levels similar to those documented in study one and two, and in previous research (Partington et al., 2013; Zhou et al., 2015). Of note, there was an alarming number of student-athletes within this sample who were drinking at levels associated with probable dependence. This reinforces the need to address levels of alcohol use and associated harm among student-athletes and in particular those student-athletes who participate in team sport.

Among this sample of student-athletes, sociometric popularity was associated with hazardous levels of alcohol consumption. Student-athletes who were sociometrically popular had AUDIT scores which were close to average AUDIT score for the whole sample. This supports findings of previous research involving adolescents which explored sociometric popularity and alcohol use, where sociometric popularity was associated with the peer average alcohol use (Balsa et al., 2010). Of importance, student-athletes who were sociometrically popular did not drink significantly more or less alcohol than student-athletes belonging to the other sociometric status groups, such as rejected or average individuals. However, student-athletes who were rated as average on the sociometric dimension drank significantly more than rejected student-athletes.

Taken together these findings suggest that student-athletes who are liked by their peers drink at hazardous levels, whereas student-athletes who drink at harmful levels receive both like and dislike nominations, therefore finding themselves classified as average on the sociometric dimension. In addition, student-athletes who drank at lower levels were socially

rejected on the sociometric dimension. This is consistent with the findings in study two, where student-athletes who abstained or drank little alcohol were social excluded and there were hidden social costs associated with drinking heavily. Previous research by Tucker et al (2011) also found a curvilinear relationship where adolescents were socially penalised for drinking at levels above or below the mean for their drinking group.

On the second dimension, perceived popularity, student-athletes who were perceived as popular had significantly higher levels of alcohol consumption and associated harm than student-athletes who were perceived as unpopular. This supports findings from study two where student-athletes reported that the heaviest drinkers were seen as the most popular, a finding also reported by Dumas et al., (2014).

Within this study an attempt was made to isolate the student-athletes who belonged to the two dimensions of popularity and ascertain whether there were differences in levels of alcohol consumption for these distinct groups. No significant differences were identified in alcohol consumption for students who were perceived as popular, compared to students who were sociometrically popular or were considered both perceived as popular and sociometrically popular. However, due to the small numbers within each group, it was difficult to reach a meaningful conclusion on such findings.

The sociograms presented within this chapter looked to provide a visual representation of the social networks based on sociometric and perceived popularity nominations. The sociograms provided further context regarding the position of student-athletes within their social network, for instance low-risk and hazardous drinkers appeared at the outer edges of their network on the perceived popularity dimension. In-degree centrality, denoted by the size of an individual node in this study, is particularly helpful in identifying opinion leaders or key players within a given social network (Valente, 2010). An awareness of the student-athletes who occupy such influential positions within sports teams may be of value for alcohol interventions.

Overall, the findings of this study support the dichotomy identified by student-athletes in study two. Student-athletes who drank the most were perceived as popular, representing a group of individuals who are powerful, highly visible and demand respect. However, student-athletes who had more moderate patterns of alcohol consumption were considered sociometrically popular, whereby they received mutual peer nominations and were liked by many of their peers. It would appear that student-athletes are unaware of the different dimensions of popularity and there is a misperception that drinking heavily is a means of securing social success and sociometric popularity. It is possible that this misperception is

perpetuating excessive alcohol consumption and risk-taking behaviour among student-athletes. If so, alcohol interventions should consider challenging this misperception and sharing the socially relevant information that students who drink at levels closer to the group norm are well liked and socially accepted by their peers.

Whilst this study is interesting and informative, it is on a smaller scale than the two previous studies and collects data from a small group of student-athletes from one university. Thus, result here cannot be generalised to the wider student-athlete population. Furthermore, the cross-sectional nature of this study and the sociograms shown reflect a snap shot in time, demonstrating each student's level of alcohol use and associated risk on the AUDIT, and their relationships with their teammates at that one moment (Jones, 2006). Both a student's pattern of alcohol consumption and their relationships with their teammates are subject to change. Future research should look to observe the relationship between these two key variables over time. In this study, the researcher endeavoured to recruit all members of each sport team, however despite best efforts there were six team members who were unavailable at the time of data collection. As result, there is missing data. This is a particular challenge associated with sociometric and social network analysis studies (Prell, 2012; Valente, 2010). This is compounded by the fact that sports teams are more difficult to gather in one place at one time, than school children who are gathered in a classroom on a daily basis. Missing data can be problematic when running social network measures, however the network measures of interest in this study, namely in-degree centrality, is considered the most robust when data is missing (Valente, 2010).

In conclusion, this study was exploratory in nature, looking to explore the relationships between popularity and the alcohol consumption of student-athletes. This study used a method not routinely used in the field of sport and exercise psychology, with a participant group who have received little sociometric research attention. By adopting a sociometric approach and utilising social network analysis measures, findings here supported the dichotomy identified in study two that heavy drinkers occupied positions of power, prestige and notoriety but were not well liked. Future research may initially look to replicate this study with a broader range of student participants such as natural friendship groups or social societies. Additionally, there may be an opportunity to explore the social networks first year undergraduates form on arrival at university and investigate how those networks influence alcohol use over time. However, of most importance, sociometry and social network analysis have provided a valuable insight into the relationship between alcohol consumption and university students' social networks, and enabled researchers to identify key players within their networks.

Chapter 6 - General Discussion

The final chapter of this thesis presents an opportunity to reflect on the overall programme of research. This chapter, therefore, seeks to provide a conceptualisation of the findings from all studies within this thesis, consider the wider implications of such findings and offer recommendations for future research. Firstly, however, this chapter begins with an overview of the importance of student alcohol research and the original contribution to knowledge offered by this thesis.

6.1 The importance of student alcohol research and challenging taken for granted assumptions

This programme of research was driven by the problem of university students in the UK being at risk of hazardous alcohol consumption and engaging in binge or heavy episodic drinking (El Ansari et al., 2013; Heather et al., 2011; Norman et al., 2012; Szmigin et al., 2008). Such patterns of alcohol consumption are associated with both short and long-term risks and negative outcomes such as physical injury, sexual assault, problematic alcohol use in later life, poor quality adult relationships, depression, suicide and death (Bewick et al., 2008; Marmorstein et al., 2010; O'Neill et al., 2015; Pitkanen et al., 2008; White & Hingson, 2013; Wiersma & Fischer, 2014). Consequently, there is widespread concern regarding the impact of problematic alcohol use on the individual student, their peers and the communities in which they live, (Davoren et al., 2016; Herring et al., 2014; Perkins, 2002b) and there is a need to explore why university students continue to drink at hazardous and harmful levels despite knowledge of the associated health, social and academic risks (Capron & Schmidt, 2012; Lee et al., 2011; White & Ray, 2014).

Upon commencement of this programme of research, a review of existing literature demonstrated that student alcohol research was dominated by studies which had focused on the negative consequences of student alcohol behaviour, thereby adopting a problem focused perspective, and little consideration had been given to the possible incentives that may underpin alcohol behaviour among university students (Lee et al., 2011; Molnar et al., 2009; Park, 2004). Existing alcohol interventions, which have focused on the negative consequences of hazardous and harmful drinking, have been found to have a limited impact in terms of eliciting long term behaviour change among university students (Henson et al., 2015; Martineau et al., 2013; Moreira et al., 2012). This lack of success indicates that warning students of the negative consequences of hazardous and harmful alcohol consumption is not enough and a different approach is required.

After reviewing the relevant literature and establishing the hazardous and harmful nature of student alcohol consumption at UK universities and the gaps within the existing research, this programme of research was designed to offer an original contribution to knowledge through three novel elements.

Firstly, this thesis challenged and deviated from the traditional 'problem focused' approaches, and adopted instead an 'incentives or benefits approach', acknowledging that hazardous and harmful drinking may engender negative consequences for students but may also have significant benefits. This meant asking novel and intuitive research questions which remained largely unanswered in the existent literature, for example what are the powerful benefits and incentives of engaging in hazardous and harmful alcohol consumption and why do students continue to drink at such levels when they are aware of the serious risks. Of critical importance, these research questions were framed from the student's perspective, with an open and non-judgemental focus on the incentives they associated with alcohol use.

Secondly, this thesis devoted attention to two previously unexplored social factors, namely social belonging and popularity, to establish their relevance in the explanation of the alcohol consumption of university students. Previous research had failed to explore reoccurring social themes regarding alcohol use, image and reputation, and feelings of belonging, which had been reported by young people and students in the UK (Christmas & Seymour, 2014; de Visser et al., 2013). Social factors were also found to be significant at each stage of the decision-making process around alcohol consumption, with students reporting social alcohol expectancies (McBride et al., 2014; Pilatti et al., 2015; Zullig et al., 2010), social drinking motives (Collins et al., 2014; Grant et al., 2013), and experiencing positive social consequences when they consumed alcohol (Hallett et al., 2014; Lorant et al., 2013). However, existing research had largely examined student alcohol use and each type of social factor in isolation, and this research offered a unique contribution to knowledge by using the motivational model to coherently display findings pertaining to all of the relevant social factors at each stage of the alcohol decision-making process.

Finally, this thesis combined an online survey, qualitative interviews and a sociometric approach within a mixed methods programme of research to provide a complimentary yet novel insight into student drinking behaviour. When reviewing the previous literature, student alcohol research was dominated by stand-alone quantitative or qualitative studies. In particular, research studies examining social motives and consequences appeared reliant upon quantitative measures. Existent literature had seemingly neglected research questions regarding the context and environment in which university students drink alcohol,

whether specific cultures or social groups promote ideas about the effects of alcohol, and how students appraise the consequences they experience when drinking alcohol and the subsequent impact of these consequences on their future alcohol decision-making. Therefore, this thesis aimed to acknowledge the complex nature of the student drinking behaviour by collecting quantitative and qualitative data, which when combined provided answers to a range of different research questions including which social factors were influential, how and why social factors motivate students to consume alcohol and the role of these social factors in the social life of university students.

6.2 Overview of the current research

At the outset of this thesis, Chapter one introduced the problem of student alcohol use and the risks associated with excessive alcohol consumption in this population. Chapter two adopted an incentives-based approach, using the motivational model to organise a review of the existing literature into a meaningful structure. To explore and understand the role of social benefits in student drinking behaviour as fully as possible, a series of interconnected studies were then presented in Chapters three, four and five. An explanatory sequential mixed methods approach was used, where a quantitative study in Chapter three aimed to establish the nature of the relationships between key social factors, need for popularity and social belonging, and student alcohol use. A qualitative study in Chapter four, then looked to explore the complexity of these relationships in more detail within the context of student-athletes' social experiences. Qualitative findings from Chapter four subsequently informed the design and execution of a sociometric study in Chapter five. Chapter five called upon a sociometric approach, including the use of sociograms to visualise social networks within team sports, to elucidate a clearer understanding of the relationship between alcohol consumption and popularity.

Overall, this thesis has shown that students perceive there to be significant social benefits associated with drinking alcohol. In the first of three original research studies, significant positive relationships were identified between student alcohol consumption, need for popularity and social belonging in Chapter three. Chapter three also established that students are continuing to drinking alcohol at hazardous level and student-athletes in particular are an at-risk group. In Chapter four, student-athletes provided a detailed description of the drinking culture within their sports team and demonstrated that their awareness of perceived social costs and benefits influenced their alcohol decision making. Finally, findings from Chapter five revealed that the heaviest drinkers across sports team occupied positions of social status and prestige by they were not necessarily liked by their peers.

6.3 Conceptualisation of findings

Over the course of this programme of research, a number of concepts have been examined including levels of alcohol consumption and associated risk, the relationship between alcohol and different aspects of popularity and the contrasting social experiences of students who make particular choices around alcohol consumption resulting in feelings of belonging or exclusion. The findings across all of the studies related to alcohol use, popularity and social belonging will be examined in turn. A final section will conceptualise these findings into a model, from which practical implications and suggestions for future research will be drawn.

6.3.1 Alcohol and social benefits

Across all three studies there was evidence that the majority of the university students sampled drank alcohol, and did so at hazardous and harmful levels. There was also a small proportion of students who drank at probable dependence levels, including an alarming 27% of student-athletes in Chapter five who had AUDIT scores associated with probable dependence.

Despite recent research which documents a growing trend of non-drinking among university students (Conroy & de Visser, 2017), the findings of this thesis suggest that alcohol is central to the social experiences of students at university and there are relationships between alcohol use, social motives and social consequences. The findings clearly show that the majority of students who participated here were drinking at hazardous and harmful levels, and perceived that drinking at these levels brought powerful social benefits, and that not drinking brought significant social penalties. These social benefits and penalties were culturally engrained, widely known and largely unquestioned. Whilst privately, some students were unhappy about the role hazardous drinking played in their social context, they did not feel equipped to voice their feelings.

For the student-athletes involved in this programme of research, these relationships may be intensified within the context of sports teams because of the nuances of team sport culture. Nevertheless, student-athlete alcohol use was characterised by episodes of binge and heavy drinking, involving pre-loading or pre-partying behaviour and seeking out cheap or discounted drinks in nightclubs and bars in the night time economy. Participation in culturally approved and expected alcohol behaviour such as initiation ceremonies and drinking challenges facilitated the consumption of large volumes or amounts of alcohol within a short period of time. Student-athletes also demonstrated their awareness of the physical risks of heavy drinking such as injury, however highlighted their dismissive attitude

towards such risks. This research, therefore, goes beyond the existing knowledge base by demonstrating that students dismiss the known risks and their private, negative thoughts to consciously engage in hazardous and harmful alcohol consumption. This conscious decision-making process further emphasises that this problem needs to remain within the forefront of public health campaigns within higher education.

6.3.2 Popularity

Taken together the findings from each of the studies in this thesis suggest that popularity, regardless of the concept adopted (i.e. need for popularity, sociometric popularity and perceived popularity), is a relevant social consideration for university students and a pertinent social factor in the explanation of their alcohol consumption. Firstly, in Chapter three, positive relationships were identified between the need for popularity, a potential social motive, and alcohol consumption among students and student-athletes. Both students and student-athletes who drank at harmful and probable dependence levels had a greater desire to be popular than low-risk drinkers.

Secondly, in Chapter four student-athletes were aware of their own and others' social status, and that drinking was an opportunity to show off, impress others and perform alcohol party tricks which would prompt praise from their peers and improve their status or credibility within the team. Within Chapter four, student-athletes who attended all social gatherings, the majority of which were alcohol focused, and drank the most alcohol were seen as most popular. Of interest, however, was the novel findings that there was a 'dark side' or hidden social costs to drinking heavily. Student-athletes confided that they became annoyed at, fearful of and secretly avoided the heavy drinkers on the team. These findings reveal a contradiction between the outward and public perception that student-athletes who drank heavily were popular and the hidden, private reality of negative attitudes towards those who did drink heavily.

The reported discrepancy between perception and reality was explored in more detail in Chapter five by examining the distinction between sociometric popularity (i.e. liking) and perceived popularity (i.e. social status, power & prestige). Findings from Chapter five supported this discrepancy, with students who were perceived as popular drinking significantly more than those who were unpopular. However, students who were considered popular on the sociometric dimension (i.e. liked by their peers, socially accepted & preferred as a friend) had lower levels of alcohol consumption, near to the peer norm, and did not drink significantly more than students in other status groups (e.g. average, rejected). Students who were rejected on the sociometric popularity dimension

and classified as unpopular on the perceived popularity dimension had average AUDIT scores which were on the boundary of low-risk and hazardous categories.

Taken together, the findings of Chapter four and chapter five suggest that whilst drinking heavily may increase social status, prestige and notoriety, it may reduce likeability. For students to be liked by their peers, their alcohol consumption seemingly needs to be more moderate and consistent with the norm of their peer group. Of importance for challenging student alcohol behaviour, findings here demonstrate that drinking too much can be just as detrimental and damaging to one's social relationships than not drinking.

6.3.3 Social belonging

Findings from Chapter three and four suggest social belonging was a social benefit of hazardous and harmful alcohol use. In Chapter three, a significant positive relationship was identified between social belonging and alcohol use, whereby students who drank at higher levels had higher social belonging scores. Low risk drinkers had significantly lower levels of social belonging than students who drank at hazardous, harmful and probable dependence levels. Alcohol consumption and associated risk was also found to be a significant predictor of social belonging score.

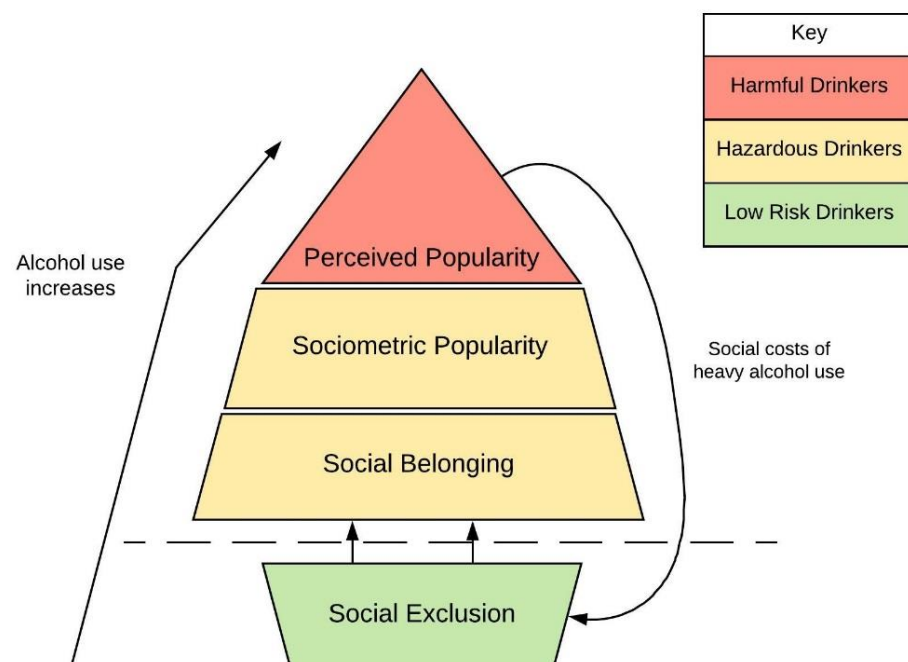
In Chapter four, student-athletes described the processes via which alcohol facilitated social belonging. Student-athletes reported that drinking alcohol with their teammates provided them with an opportunity to integrate quickly, confidently and successfully into their team. Student-athletes believed that with continued engagement in the culturally prescribed drinking behaviour relationships between team members progressed to a level of intimacy and support that would not have been possible without alcohol.

In contrast, not all student-athletes wanted to follow the cultural rules. The conflicted drinkers in Chapter four showed that some student-athletes were reluctant to drink heavily and engage in the culturally condoned alcohol-related behaviour. As result, these students endured social costs, including social exclusion and ostracism, and peer judgment and negative reactions from their teammates. Such reactions led to feelings of discomfort, isolation and a lack of enjoyment when socialising with their teammates. In an effort to survive socially in the culture, the conflicted drinkers adopted various coping strategies such as avoidance of teammates who enforced the cultural rules, drinking from a covered sports water bottle and remaining quiet or consistent about their non-drinking approach. However, over time many of the conflicted drinkers chose to conform to the drinking culture and increased their alcohol use. In some cases, student-athletes were reported to have withdrawn from this culture and dropped out of their chosen sports team.

6.3.4 A hierarchical model of social factors and student alcohol consumption

In an effort to collate and make sense of the key findings from this thesis, a hierarchical model was created. This model utilises the knowledge which has been uncovered relating to social factors to offer further understanding and explanation of the alcohol consumption behaviours of students and student-athletes. As shown in Figure 15, the model distinguishes three distinct clusters or groups of university students; low risk, hazardous and harmful drinkers (based on their levels of alcohol consumption as measured by AUDIT). Within the model, these three groups are depicted within a social hierarchy which reflects their social status and how that status was derived in relation to alcohol consumption.

Figure 15. A hierarchical model of social factors and student alcohol consumption



Students who abstain or consume low levels of alcohol are at the bottom of the social hierarchy. They are excluded from their social group and many social activities, they suffer negative judgements from their heavier drinking teammates, have low status, power and prestige, and few reciprocated friendships. As individuals, these students feel alone and isolated, and are seemingly unaware of other students who may be in a similar social position. These students face a difficult choice of either enduring the social costs of non/low-drinking or increasing their alcohol consumption to eschew social costs and gain social benefits.

In general, these students seem to be less concerned with being popular and some even tried to challenge the drinking rules either directly or by devising personal coping strategies. However, as the conflicted drinkers demonstrated in Chapter four, it appears that despite this lower need for popularity and some initial resilience, for the majority of non/low risk drinkers there is a threshold whereby the social costs become too much and behaviour change takes place. The majority of non/low risk drinkers tend to increase their drinking to negate the social penalties and gain the social benefits. Those who do not follow this route withdraw from the group completely, ultimately becoming 'ghosts', who are easily forgotten by the group.

In the second level of the proposed hierarchy, students who drink at hazardous levels are able to access social benefits such as social belonging. This positive feeling of fitting in and belonging within your chosen social group is widely accessible and available to students who consume alcohol and follow the cultural rules. This sense of social belonging, a social consequence of drinking alcohol with peers, is likely to satisfy the development needs of many young adults who arrive on university campuses without an existing support network and value the opinion of their peers (Arnett, 2000, 2005; Merrill & Carey, 2016; White & Jackson, 2004). Thus, offering an explanation for why the majority of students engage in hazardous levels of alcohol use in their first year of university. As these students progress through their university career, they are also likely to gain sociometric popularity, whereby they are liked and socially accepted members of their social group, who are able to form close mutual relationships. Students in this group may have a higher need to be popular than low-risk drinkers.

At the top of the social hierarchy, are students who drink at harmful levels. These students occupy the top social positions within their social group and are perceived to be the most popular. These students had high levels of social visibility, influence and are likely to be the main leaders in initiating and prescribing alcohol behaviours. However, although occupying the top spot in terms of status, power and influence (perceived popularity), these students were subjected to certain hidden social costs. Whilst perceived to be popular, this group were not as likeable (sociometric popularity) as those whose drinking was less extreme (hazardous drinkers). Those who engaged in extreme alcohol consumption on a regular basis were secretly described by their peers as a burden, and as being annoying, these students were seen as aggressive and at times frightening. This is consistent with previous research involving adolescents and university students which has linked perceived popularity to other negative traits such as a lack of kindness, social dominance, conflict, and attention seeking (Lansu & Cillessen, 2012; Litwack et al., 2012; Parkhurst & Hopmeyer, 1998). However, the social costs associated with extreme alcohol consumption

in this thesis were in fact a form of social exclusion, whereby peers secretly avoided spending time with the individuals who drank the most alcohol.

Overall, this hierarchical model attempts to demonstrate that alcohol use influences social status (in the form of perceived popularity), likeability (in the form of sociometric popularity) and social belonging. Students are aware that decisions made around alcohol consumption will influence their social experiences and they make active choices about alcohol consumption based on this knowledge. When examined through lived experience and social network analysis, the relationship between alcohol consumption and social factors is complex. The balance between social costs and social benefits may depend on how 'social success' is defined by individuals (e.g. do they want power and status or likeability?) and also on awareness of secret versus public opinions and behaviours. What is clear is that those who do not drink, or who drink at levels lower than the culturally prescribed average, not only miss out on social benefits, but also face significant social penalties. For some students, these social penalties could have an impact upon their emotional wellbeing and mental health.

When viewed through a social lens, it is not surprising that students are reluctant to change their alcohol behaviours despite knowledge of the physical, health academic risks. This social hierarchy demonstrates that alcohol use is likely to increase for those who are excluded and hazardous levels of alcohol consumption or above are likely to be maintained by students in order to maintain access to social benefits such as social belonging, and sociometric or perceived popularity.

6.4 Implications for policy and practice

The findings reported in this thesis have theoretical, practical and policy implications.

From a theoretical perspective, the motivational model provided an appropriate structure through which to coherently and comprehensively examine the student alcohol literature. In Chapter two, the motivational model provided a useful framework through which to examine the importance of social factors within the alcohol expectancies and drinking motives literature. However, early on in this thesis, it was suggested there was a need to adapt the original motivational model to acknowledge and move in step with more recent literature which suggested that the consequences of alcohol consumption served to influence and reinforce an individual's decision to consume alcohol (Barnett et al., 2014; Capron & Schmidt, 2012; Mallett et al., 2013; Park et al., 2013; Park, 2004). The revised model, with the addition of consequences, was found to offer a structure through which the

social experiences of student-athletes in Chapter four could be understood. The addition of consequences to the model was further supported by findings in this thesis, for example depending upon the combination of social benefits and costs experienced student-athletes in Chapter four strategically decided to maintain or alter their approach to alcohol.

Despite the logical inclusion of drinking consequences in the motivational model within this thesis, there is a need for further theoretical investigation to ascertain the specific interrelations between the existing component parts of the model (i.e. antecedents, alcohol expectancies & drinking motives) and alcohol consequences. However, based upon the experiences of students within this research, one clear line of inquiry would be to move away from a linear model to a continuous flow of information which informs an individual's decision to initiate and maintain their engagement in both alcohol use and the drinking culture. As a result, the link between alcohol consequences and antecedents warrants attention.

A second theoretical consideration is the use of the AUDIT within each study of this thesis. The consistent use of the same measurement tool is advantageous for this research because findings here can be compared and contrasted with other studies in the alcohol field. In particular, the use of the AUDIT has provided the opportunity to match different aspects of social status to levels of alcohol use and the associated risks students are willing to endure. However, it should be noted that the AUDIT is a screening tool and not a diagnostic instrument. To diagnose alcohol dependence, a diagnostic interview such as the Composite International Diagnostic Interview would have to be administered or a clinical evaluation undertaken by a trained specialist (Higgins-Biddle & Babor, 2018). Therefore, the use of the AUDIT within this thesis can only provide a means of capturing levels of alcohol-related risk and the early identification of possible alcohol dependence among the university students sampled.

From an applied or practical perspective, the findings presented within thesis provide a greater understanding of the role of social factors in student alcohol behaviour. In particular, these findings provide important information for the design and content of future alcohol interventions targeted at students. The findings of this PhD suggest that student alcohol consumption is socially motivated and that students are aware of and consciously weigh up the social costs and benefits associated with different levels of alcohol consumption. The findings have provided insight into the nature of the social benefits of hazardous and harmful drinking which need to be counteracted or challenged for behaviour change to occur. In addition, some social costs associated with heavy drinking have been identified that could be highlighted to those drinking the most and others in the wider culture.

The findings brought to light the coping strategies used by some students to navigate the drinking culture and, in particular, their attendance on a Wednesday sports night. The use of such strategies highlights that there are students who do not wish to drink at hazardous and harmful levels and who are looking for practical ways to avoid these behaviours. These findings also bring to light the fact that not all students are drinking as much as their peers think they are.

Study two also highlighted that there was some flexibility in the drinking culture, where alternative cultural rules could be followed to gain some social benefits (i.e. attending on a Wednesday evening, having good banter or performing well on the pitch) and not all social events were centred around alcohol (i.e. sober socials, welcome meals). Although these strategies were not wholly successful, there was scope to improve the effectiveness of some strategies. For example, in terms of student athletes, having coach endorsement improved the effectiveness and acceptance of sober socials. It may be therefore, that stronger guidelines from coaches would help to address some of the extreme alcohol behaviours evidenced within student sport. Some student-athletes expressed concern about the impact of alcohol on their health and wellbeing, especially in the context of their ability to perform as an athlete. For this at-risk group, it may be that sport performance is an effective entry point for alcohol education and means of reducing their alcohol intake as part of nutrition or strength and conditioning sessions.

More specifically, study two illuminated the role of alcohol in the social experiences of student-athletes, including how alcohol decision making influenced their transition into university life, integration into their sport team and ultimately determined their social success. These findings highlight clear points during a student-athlete's transition and journey through university where targeted behavioural strategies or support could be offered. For example, prior to arrival at university there could be a conscious effort to set an alternative narrative around non-alcohol focused activities available on campus and encourage first year undergraduates to form relationships with peers with different interests. However, the most critical and timely point at which to intervene is where students who are enduring the social costs of not drinking heavily actively decide to increase their alcohol intake in order to fit in. To prevent students crossing this threshold, strategies such as developing self-efficacy, including drink refusal self-efficacy could be effective.

Another time at which to intervene would be to target those in second or third year of undergraduate degree who are likely to belong and already consume hazardous levels of alcohol use. These students may aspire to reach the higher levels of social status, by displaying extreme alcohol behaviour such as perfecting their ability to perform drinking

challenges and becoming the focus of alcohol story telling. There is a need to identify those who have a greater desire to be popular, as they may be an at-risk group for heavy alcohol use and associated problems, thus a screening tool and tailored interventions to correct their need for popularity could be developed. These interventions may focus on improving self-esteem, celebrating individuality or explaining to students the difference between perceived popularity (i.e. status, power and influence) and actual likeability.

For students to understand that not drinking is ok, there needs to be greater transparency and sharing of the experiences of those students who are excluded due to non-drinking. This sharing should be done both with other low risk drinkers, to show them that they are not alone, but also with those in the culture who influence and dictate the cultural norms around alcohol. It is unlikely that those who set the drinking rules realise the full effect such actions can have on those who experience social exclusion because of their non or low drinking status. Bringing these hidden stories to light may help to open a dialogue for change, or at the very least result in increased understanding.

Existing intervention messages that have taken a social approach might not have gone far enough or pitched the correct social message to students. Social norms messages around how much others drink and what is accepted might be too simplistic. Instead, feedback might need to be given regarding how much others drink, what is accepted and what are the social benefits or costs for their peers who drink differing amounts. For example, bringing to light the hidden social costs of extreme drinking and sharing the message that being liked and belonging is different to occupying the positions of high status and power may prompt students to moderate their drinking.

Although this programme of research was conducted in one geographical location in the North East of England, the findings have wider relevance and practical implications for other universities in the UK. In particular, Chapters four and five highlight the current amount of alcohol some student-athletes consume and the nature of the drinking culture within team sports. Findings from this thesis support an existing body of evidence which suggests that participation in organised sport at university puts young people at increased risk of alcohol-related harm (Martens, Dams-O'Connor, et al., 2006; Nelson & Wechsler, 2001; Partington et al., 2013; Zhou & Heim, 2014).

This thesis suggests, however, that student-athletes face risks whether they choose to drink heavily or not. A previous unidentified and additional harm or risk may be experienced by those student-athletes who refuse or struggle to adhere to the inescapable drinking culture present within team sports. This second source of harm or risk was demonstrated

in Chapter four, where during emotive interviews student-athletes described a difficult social experience, characterised by an internal conflict, isolation and feeling misunderstood by peers and teammates. It is important to consider that this may be another source of stress and pressure, and a possible mental health issue for young adults who are already dealing with the challenges of a dual-role (student and athlete). The policy of actively encouraging the UK's most promising athletes to attend university, may put these young people at risk of both these issues, without the support systems which are say available in America for university athletes.

Individuals and organisations involved in facilitating sport at UK universities such as coaches, sporting directors, support staff and British Universities and Colleges Sport (BUCS) can no longer ignore alcohol use and alcohol behaviour of student-athletes. An honest and open assessment of off-pitch activities within team sport at university is needed. This would prevent the reactive and punishment focused approach when student-athlete alcohol behaviour hits the headlines (e.g. BBC, 2017; Palatinate, 2018; The Telegraph, 2015). There appears to be a general reluctance by various stakeholders to acknowledge the drinking culture within university sport and a tendency to avoid the issue, which ultimately condones such alcohol behaviour through silence. This is exemplified by current policies, for example alcohol is only briefly acknowledged within the broader BUCS policy regarding expected behaviour and conduct. However, the student-athletes in Chapter four suggest there is an opening for an alternative culture to set up, with new rules and norms. Although difficult to establish, an alternative culture could be fostered through team or club captains, coaches and sport psychologists.

6.5 Limitations and future research directions

This programme of research has established that positive social factors were pertinent in the explanation of student alcohol behaviour, and exploring student-athletes' social experiences and interpersonal relationships have been able to demonstrated how belonging and popularity influence alcohol decision making. However, as with all pieces of research there are limitations and avenues which could not be explored within the remit of the current research. It is important to acknowledge that the current research is a limited and boundaried piece of research, given the three-year duration of the PhD programme, the limited resources available and the desire to explore original research questions. As result, the researcher has been unable to examine all of the factors relevant to student alcohol consumption in detail, such as alcohol expectancies and social norms. However, every effort has been made to acknowledge the role of original variables explored within this thesis in the context of factors which are known to be relevant to student alcohol use

and behaviour. For example, the application of the motivational model in Chapter four to accommodate novel qualitative findings alongside the accepted stages of the alcohol decision-making process.

More specifically, there are limitations across all of the experimental studies. For example, students from one UK university were the chosen participants in each of the experimental studies and this may call into question the reported findings because they may reflect a specific closed sub-culture at one university, which is not present at other universities in the UK. There were also small numbers of non-drinkers or low risk drinkers involved in the studies, who could have offered a different insight into the role of social factors in their decision to drink below the peer group average. Despite the use of an exciting and novel method to explore student alcohol consumption and relationships between athletic teammates in Chapter five, the researcher feels the true power and potential of social network analysis as a methodology was not harnessed. Inevitably and in some part due to these limitations, this research has illuminated questions for further research. In particular, there are three lines of inquiry which have emerged over the course of this thesis and should be pursued by future research.

Firstly, there is a need to devote further research attention to the positive consequences of alcohol consumption and in particular gathering further information on role of social belonging and popularity in student alcohol behaviour. Secondly, the continued exploration of the relationship between alcohol and sport on university campuses. Thirdly, further consideration of insights which sociometry and social network analysis can provide when exploring health behaviours such as alcohol.

An overall finding from this thesis was that positive social factors, in the form of social belonging and popularity, were relevant in the explanation of student alcohol consumption. However, as social concepts, social belonging and popularity require further exploration. There is a need for longitudinal research which explores student alcohol use and these social factors over time. This research would aim to determine whether the relevance of these social factors fluctuates at different points during the academic year and over the course of an undergraduate degree. There is also a need to consider the value and importance of social belonging and popularity when compared to other social factors. An interesting approach, in keeping with hierarchical model proposed in this chapter, would be to develop a hierarchy of different social motives and consequences which reflect the comparative value and importance students' attribute to each social factor. For example, ascertaining whether students value likeability and close friendships more than status and influence.

Following on from this programme of research, future research may need to examine the acceptability of 'dry' activities and whether such social activities could fulfil the needs of university students. Given the social benefits associated with alcohol consumption identified within this thesis, there is a need to examine whether engaging in alternative social activities are likely to generate similar positive feelings and consequences. Findings within Chapter three revealed that other factors were significant predictors of social belonging including living with student friends and being a member of social society. Thus, there may be alternative routes to a successful social life at university. Previous research has also suggested a positive means of promoting social bonding through equally as enjoyable non-drinking social activities such as visiting the cinema and restaurants (Murphy, Barnett, & Colby, 2006; Zullig et al., 2010).

More generally, it is important to consider whether the knowledge gathered within this thesis might transcend university culture and be applicable to the alcohol behaviour of other groups within the UK population. Within the UK, alcohol use is a staple of social culture (Ally et al., 2016). The social factors explored within this thesis, popularity and belonging, are considered to be basic human needs, which need to be satisfied (Baumeister & Leary, 1995; Griskevicius & Kenrick, 2013). Therefore, these social factors are likely to be relevant concerns for many people in different walks of life and alcohol use may act as a means of meeting these social needs.

Future research should continue to explore the relationship between alcohol and sport on university campuses. Within this thesis student-athletes were information rich cases, who provided a detailed insight into the role alcohol played within their sports team and social lives. In keeping with the findings in this thesis, there is a need to devote research attention to those classified as conflicted drinkers, student-athletes who did not wish to drink at culturally prescribed levels, and their decision-making process. There is a need to capture further detail on when and why they choose to conform to culture and increase their alcohol intake. Other lines of inquiry within a sport setting include studying university sports where there is an absence of a drinking culture. Findings from this thesis and previous research suggest student-athletes from individual sports often drink at lower levels (Ford, 2007; Partington et al., 2013). Regardless of the type sport, this may involve exploring the non-drinking cultural rules and norms, how such rules are enforced and who enforces them.

Another important finding within this thesis was the successful application of a sociometric approach with a sample of UK university students. There is the potential for sociometric and social network analysis to become a valuable tool in alcohol research and the development of interventions. Traditional sociometry, with origins in psychotherapy, could

be used to design socially focused alcohol interventions which provide feedback to a social group on perceived and sociometric popularity, and share information about the social costs of heavy alcohol use (Jones, 2006). Equally, social network analysis has harnessed the statistical power to analyse large networks, which could be used in further research to analyse the influence of alcohol use in the formation and maintenance of social networks from freshers' weeks to graduation.

6.6 Conclusion

In conclusion, this thesis has challenged traditional problem-focused approaches to student alcohol consumption and explored the incentives associated with alcohol use. The adoption of this perspective has extended the knowledge base by demonstrating that previously unexplored social factors in the form of social belonging and popularity are relevant and influential in student drinking culture and individual student's decision-making around alcohol. The previously undocumented strategic decisions students make based on the powerful social benefits associated with drinking heavily and social costs of not drinking alcohol cannot be ignored or discounted by researchers, government officials and higher education institutions if they hope to effectively address hazardous alcohol use among UK university students. Of importance to alcohol interventions, original findings from this thesis uncovered a group of students who are conflicted about drinking at culturally prescribed levels and that there are hidden social costs associated with drinking heavily. Future research should devote attention to identifying and supporting students who are conflicted about drinking, whilst developing alcohol interventions which inform students of the social costs of drinking heavily.

Chapter 7 - References

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Appendix 1. Demographic questions for all studies

Demographic Information

Age

Gender

☐ Male

☐ Female

Ethnicity

Religion

Current Living Arrangements

☐ Halls of Residence

☐ With Parents

☐ With Friends (also students)

☐ With Friends (non-students)

☐ With Partner

☐ Living Alone

☐ Other

Demographic Information

Information about you as a student at Northumbria University

Type of Course

- ☐ Undergraduate ☐ MA/MSc/MRes/Postgraduate Taught ☐ Other

Current Level of Study

- ☐ First Year ☐ Second Year ☐ Third Year
☐ Fourth Year ☐ Other

Registration Status

- ☐ Full Time ☐ Part Time ☐ Other

Please write the name of the course on which you are currently enrolled

Are you currently a member of a **Northumbria University sports team, club or organisation?**

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- ☐ Yes ☐ No

If you answered 'Yes' above, please name the **Northumbria University sports team, club or organisation** of which you are a member

Please select the option below which best describes your level of participation in the **university** sports team, club or organisation you have named above.

- | | | |
|---|--|---------------------------------------|
| <input type="radio"/> Coach | <input type="radio"/> Training Member Only | <input type="radio"/> Train & Compete |
| <input type="radio"/> Train, Compete & Hold a Position of Responsibility (e.g. captain, vice captain) | <input type="radio"/> Non-playing Position of Responsibility (e.g. treasurer, umpire/match official) | <input type="radio"/> Other |

If you selected Other, please specify:

At what level do you compete? (e.g. BUCS, national league, other national events, international)

Are you currently a member of an **external sports team, club or**

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organisation?

- ☐ Yes ☐ No

If you answered '**Yes**' above, please name the **external** sports team, club or organisation of which you are a member

Please select the option below which best describes your level of participation in the **external** sports team, club or organisation you have named above.

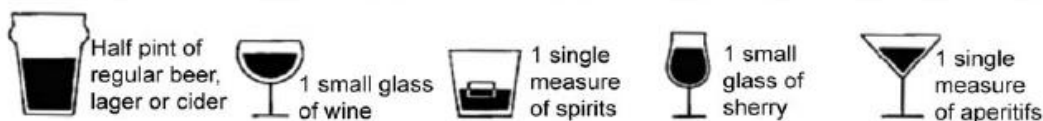
- | | | |
|---|--|--|
| <input type="radio"/> Coach | <input type="radio"/> Training Member Only | <input type="radio"/> Train & Compete Only |
| <input type="radio"/> Train, Compete & Hold a Position of Responsibility (e.g. captain, vice captain) | <input type="radio"/> Non-playing Position of Responsibility (e.g. treasurer, umpire/match official) | <input type="radio"/> Other |

If you selected Other, please specify:

End of Appendix - Demographic Questions

Appendix 2. Alcohol Use Disorders Identification Test (AUDIT) Questionnaire

This is one unit of alcohol...



...and each of these is more than one unit



Questions	Scoring system					Your score
	0	1	2	3	4	
How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many units of alcohol do you drink on a typical day when you are drinking?	1 - 2	3 - 4	5 - 6	7 - 9	10+	
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	

Questions	Scoring system					Your score
	0	1	2	3	4	
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	

How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Have you or somebody else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year	

TOTAL =

Appendix 3. ASSIST Questions

Drug Use

The questions on this page are about alcohol, tobacco products and other drugs. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills. Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications), however for this survey **please do not record any medications prescribed by your doctor.**

Please try to be as honest and as accurate as you can be.

Please be assured that all information will be treated as strictly confidential.

In **your life**, which of the following substances have you **ever used**?

	No	Yes
Tobacco products (cigarettes, chewing tobacco, cigars etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Alcoholic beverages (beer, wine, spirits etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Cannabis (marijuana, pot, grass, hash etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Cocaine (coke, crack etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Amphetamine type stimulants (speed, diet pills, ecstasy etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Inhalants (nitrous, glue, petrol, paint thinner etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Hallucinogens (LSD, Acid, Mushrooms, PCP, Special K etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Opioids (heroin, morphine, methadone, codeine	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

In the **past three months**, how often have you used the substances you mentioned?

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	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
Tobacco products (cigarettes, chewing tobacco, cigars etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcoholic beverages (beer, wine, spirits etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cannabis (marijuana, pot, grass, hash etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cocaine (coke, crack etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amphetamine type stimulants (speed, diet pills, ecstasy etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inhalants (nitrous, glue, petrol, paint thinner etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hallucinogens (LSD, Acid, Mushrooms, PCP, Special K etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Opioids (heroin, morphine, methadone, codeine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 4. Need for Popularity Items from Santor et al. (2000)

Popularity

When answering the questions below, please think about your behaviour since the start of **this academic year at university (September 2014 to present day)**.

Please indicate whether the behaviour described is true for you.

	Never True 1	2	3	4	Always True 5
I have done things to make me more popular, even when it meant doing something I would not usually do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've neglected some friends because of what other people might think.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At times, I've ignored some people in order to be more popular with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'd do almost anything to avoid being seen as a "loser".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's important that people think I am popular.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

At times, I've gone out with people, just because they were popular.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've bought things, because they were the "in" things to have.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At times, I've changed the way I dress in order to be more popular.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been friends with some people, just because others liked them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've gone to parties, just to be part of the crowd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often do things just to be popular with people at university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At times, I've hung out with some people, so others wouldn't think I was unpopular.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End of Appendix - Need for Popularity Items

Appendix 5. Social Belonging Items from Quality of Student Life Questionnaire (QSLQ)

Questions		Answers		
SOCIAL BELONGING				
21.	How much fun and enjoyment do you get out of life?	Lots	Some	Not much
22.	How do your fellow students treat you?	Very good or good (invite you to activities)	Fair (say hello, visit, etc.)	Bad or very bad (avoid you, bother you, etc.)
23.	How many times per month do you feel lonely?	Seldom, never more than once or twice	Occasionally, at least 5 or 6 times a month	Frequently, 7 times a month or more
24.	Do you ever feel out of place in social situations?	Seldom or never	Sometimes	Usually
25.	How do people treat you at school?	The same as all other students	Somewhat differently than other students	Very differently than other students
26.	How many school clubs or organizations do you belong to?	2 to 3+	Only one	None
27.	Do you worry about what people expect of you?	Sometimes, but not all the time	Seldom	Never or all the time
28.	How many times per day do you talk to (associate with) your classmates?	3-4 times per day	1-2 times per day	Seldom, 1 time per day or less
29.	How often do you attend recreational activities (home, parties, dances, concerts or plays)?	3-4 times per month	1-2 times per month	Less than 1 time per month
30.	Do you actively participate in those recreational activities?	Usually, most of the time	Frequently, about half the time	Seldom or never

Appendix 6. Study 1 - Recruitment Email

Dear All,

I am currently looking for participants to complete an online survey which aims to explore student drinking and social behaviour.

The online survey will take approximately 20 minutes to complete and you will be asked to provide some basic demographic information (e.g. age, gender etc.), followed by questions about your alcohol consumption, drug use, social interactions with others during your time at university and your popularity.

Once you have completed the survey, you will be entered into a **prize draw where one student will be selected at random to win a £150 Amazon voucher.**

I have contacted you because you are an undergraduate or postgraduate (taught) student at Northumbria University and aged 18 years or above.

Please note that any information you provide will be confidential and your identity will not be associated with your data in any way.

This project has received all necessary safety and ethical approval from the Department of Sport, Exercise and Rehabilitation at Northumbria University.

If you are interested in taking part please follow the link below:

<https://northumbria.onlinesurveys.ac.uk/alcoholdrugssocbeh>

If you require any further information please contact the researcher Joanne Smith, via email joanne5.smith@northumbria.ac.uk

Many Thanks,
Joanne

Joanne Smith (MSc, PGcert)
(PhD Researcher)

Department of Sport, Exercise & Rehabilitation
Faculty of Health & Life Sciences
Northumberland Building, Room NB431
Northumbria University

Appendix 7. Study 1 - Participant Information Sheet



Participant Information Sheet

The purpose of this information sheet is to provide you with sufficient information so that you can then give your informed consent. It is thus very important that you read this information carefully and raise any issues that you do not understand with the researcher.

Name of Researcher: Joanne Smith

Name of Supervisor: Dr Sarah Partington

Title of Project: *Exploring the role of social satisfaction and popularity in university student drinking behaviour*

What is the purpose of the project?

Studying at university has been identified as a time of great change, when students often move away from home, become more independent and explore new social environments. The first aim of this study is to observe the levels of alcohol consumption and drug use among UK students. Research has identified that students drink alcohol for many reasons, including social reasons. The second aim of this study is to explore and understand more about the social experiences and behaviour of students and the role alcohol may play in this.

Why have I been selected to take part?

It is important that we recruit as many people as possible and you have indicated that you are interested in taking part in this study, and that you are a Northumbria University student, on an undergraduate or postgraduate taught course, aged over 18 years.

What will I have to do?

After reading this information, you will be asked to provide informed consent confirming that you wish to take part. You will be directed to the survey which will ask you to provide some demographic information (e.g. age, gender etc.) and answer questions about your current alcohol consumption, drug use, social interactions and popularity. The questions will require you to indicate on a scale either the frequency of your behaviour or how true each item is for you. It is estimated the survey will take approximately 30 minutes to complete. Please be honest when answering the questions and, while there are no questions which are intended to cause discomfort or embarrassment, should you wish to omit some answers (for whatever reason) then that is fine.

If you are completing the online survey it is best to do so whilst in a quiet place where you will not be disturbed. If you are completing the paper survey in a lecture/seminar please complete the questions on your own. It is not expected that you will discuss any of your answers with your classmates and your responses will be kept confidential. After you have completed the survey, debrief information will be provided explaining the nature of the research, how you can find out about the results and how you can withdraw your data if you wish.

What are the exclusion criteria (i.e. are there any reasons why I should not take part)?

The exclusion criteria for this project are: students under the age of 18 years old and students not currently registered on an undergraduate or postgraduate (taught) course at Northumbria University.

Will my participation involve any physical discomfort?

No physical discomfort is anticipated for participants, although please note that the survey takes approximately 30 minutes to complete. If you suffer from any conditions which make sitting for 30 minutes difficult or uncomfortable you may want to take this into consideration. You can withdraw from the project at any time or refuse to answer any questions.

Will my participation involve any psychological discomfort or embarrassment?

It is not envisaged that you will experience any psychological discomfort or embarrassment. However, questions in the survey may be perceived by some people to be of a sensitive nature. You can withdraw from the project at any time or you can skip any questions that you do not feel comfortable answering. You will be provided with the contact details of support agencies/services in case participating in this project raises any concerns you might have about your physical, emotional and psychological health. All procedures involved in this research have been risk assessed.

Will I have to provide any bodily samples (i.e. blood, saliva)?

No, the collection of bodily samples is not applicable to this research project.

How will confidentiality be assured?

The researcher has put into place a number of procedures to protect the confidentiality of participants. You will be allocated a participant number that will be used to identify any data that you provide. Only the researcher and supervisors will have access to your data. Paper records will be stored in a locked cabinet and electronic information will be stored on password protected software and computer.

Your name, email address or other personal details will not be associated with your data, for example the consent form that you sign will be kept separate from your data. All information you provide will be treated in accordance with the Data Protection Act 1998.

Who will have access to the information that I provide?

Any information gathered during this study will only be available to the research team. Should the research be presented or published in any form, then the information will be generalized and your personal data will not be identifiable.

How will my information be stored / used in the future?

All information gathered during this research will be stored and destroyed in line with the Data Protection Act (1998). During that time the data may be used by members of the research team only for purposes appropriate to the research question, but at no point will your personal information or data be revealed. Insurance companies and employers will not be given any individual's information, samples or test results and nor will we allow access to the police, security service, social services, relatives or lawyers, unless forced to do so by the courts.

Has this investigation received appropriate ethical clearance?

Yes, this study and its protocol have received full ethical approval from the Department of Sport, Exercise and Rehabilitation (Postgraduate) in accordance with Northumbria University's ethics and governance regulations.

Will I receive any financial rewards / travel expenses for taking part?

On completion of the survey you will be entered into a prize draw to win £150 of Amazon voucher. The winning student will be selected at random and will be contacted via email. If you would like to be entered in the prize draw please provide your email address when asked. The voucher will then be available for collection by the winner from researcher's office at Northumbria University.

How can I withdraw from the project?

Both you and the information you provide to this project is important. If you have any concerns, please discuss these with the researcher at the time of completing the survey. Whilst completing the survey, if you do decide that you do not wish to take any further part

then please inform the researcher or supervisor as soon as possible and they will facilitate your withdrawal and discuss how you would like your data to be treated. After you have completed the survey you can still withdraw your personal information and data by contacting the researcher or supervisor within one month of your participation. Please provide your participant number or alternatively your name. After this time it may not be possible to withdraw your individual data as the result may already have been published.

If I require further information who should I contact and how?

Please contact; Joanne Smith (Researcher), via email: joanne5.smith@northumbria.ac.uk or Dr Sarah Partington (Supervisor), via email: sarah.partington@northumbria.ac.uk

INFORMED CONSENT

Project Title: *Exploring the role of social satisfaction and popularity in university student drinking behaviour*

Principal Investigator: *Joanne Smith*

*please tick or initial
where applicable*

I have carefully read and understood the Participant Information.	<input type="checkbox"/>
I have had an opportunity to ask questions and discuss this study and I have received satisfactory answers.	<input type="checkbox"/>
I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing, and without prejudice.	<input type="checkbox"/>
I agree to take part in this study.	<input type="checkbox"/>

Signature of participant..... Date.....	
(NAME IN BLOCK LETTERS).....	
Signature of researcher..... Date.....	
(NAME IN BLOCK LETTERS).....	

Participant Debrief Sheet

What was the purpose of the project?

Alcohol consumption in the UK is a major social and public health issue. UK students have been shown to drink more than their non-student peers as well as students in the US. Therefore, this study aimed to understand more about the alcohol consumption of UK students. The research team expected that the majority of students surveyed would consume alcohol and engage in binge or excessive drinking. Previous research has also identified that students drink alcohol for social reasons. Therefore, we set out to explore the relationship between alcohol consumption and students' social experiences at university. The research team anticipated that the amount of alcohol an individual student consumes will have an impact on their social life. The survey also asked students about popularity. Research into popularity and alcohol consumption among students is a developing area of research; therefore, we did not make any predictions about the findings before collecting the data. The findings of this study will add to existing research on student drinking and may inform alcohol interventions. The findings may also help university staff and support services to understand the social experiences of students who do not drink and students who binge drink or drink to excess.

How will I find out about the results?

If you would like a general summary of the results please contact the researcher, via the email address below, approximately 8-10 weeks after taking part.

What will happen to the information I have provided?

All of the information you have provided will be stored safely either in a lockable cabinet or on a password protected computer. The information will remain confidential and be stored and destroyed in accordance with the Data Protection Act (1998). If the research is published in a scientific journal it may be kept for longer (as required by the journal) before being destroyed.

How will the results be disseminated?

The data collected will be used for a PhD thesis. It may also be published in scientific journals or presented at conferences. Should the research be presented or published in any form, findings will be generalized and all data will be anonymous, i.e. your personal information will not be identifiable as belonging to you.

Have I been deceived in any way during the project?

No, whilst taking part in this research you have not been deceived in any way.

If I change my mind and wish to withdraw the information I have provided, how do I do this? If, for any reason, you wish to withdraw your data please contact the researcher within one month of your participation. After this date, it may not be possible to withdraw your individual data as the results may have already been collated and published. As all data are anonymized, your individual data will not be identifiable in any way.

Finally, if you have any concerns concerning the way in which this research has been conducted, or if you have requested, but did not receive feedback from the researcher concerning the general outcomes of the study within a few months after the study has concluded, then please contact Mick Wilkinson (Department Ethics Rep) via email mick.wilkinson@northumbria.ac.uk

Appendix 10. Drug use as measured using the ASSIST in the overall sample

Table 2. Drug use in the Overall Sample

	Tobacco	Alcohol	Cannabis	Cocaine	Amphetamines	Inhalants	Sedatives	Hallucinogens	Opioids
ASSIST Q1 (lifetime use) n (%)	480 (65.4%)	711 (96%)	361 (49.2%)	126 (17.2%)	163 (22.2%)	85 (11.6%)	68 (9.3%)	85 (11.6%)	59 (8%)
ASSIST Q2 (3months) n (%)									
<i>Never</i>	421 (57.4%)	44 (6%)	556 (75.7%)	677 (92.2%)	647 (88.1%)	686 (93.5%)	692 (94.3%)	709 (96.6%)	699 (95.2%)
<i>Once or twice</i>	127 (17.3%)	96 (13.1%)	102 (13.9%)	44 (6%)	50 (6.8%)	33 (4.5%)	25 (3.4%)	18 (2.5%)	25 (3.4%)
<i>Monthly</i>	50 (6.8%)	225 (30.7%)	42 (5.7%)	9 (1.2%)	19 (2.6%)	9 (1.2%)	10 (1.4%)	4 (0.5%)	6 (0.8%)
<i>Weekly</i>	36 (4.9%)	346 (47.1%)	15 (2%)	1 (0.1%)	8 (1.1%)	3 (0.4%)	3 (0.4%)	0	1 (0.1%)
<i>Daily or almost daily</i>	96 (13.1%)	19 (2.6%)	16 (2.2%)	0	6 (0.8%)	0	1 (0.1%)	0	0

Appendix 11. Study 2 - Interview guide

Social groups/subcultures

Describe how you like to spend your social time?

What social activities do you do/who with/where?

What social groups are you involved in?

Social belonging

How much do you feel part of the team as a social group?

What is your understanding of social belonging? What does it mean to you?

Is the team & feeling as if you belonging within the team important to you?

How do you know you belong or don't belong in the team?

Would you say some members of the team are more popular than others? If so, how did you become aware of this?

How did you become part of the team? How long did it take?

What behaviours did you engage in to become part of the team?

How do you maintain your involvement in the team?

Role of alcohol

Describe the relationship, if there is one, between your team sport & alcohol?

What role, if any, does alcohol play in team social events & gaining acceptance as a member of the team?

What influence has alcohol/drinking had on your social experiences with the team?

What positive/negative social experiences have you had with the team due to alcohol?

What do you think of other members of the team who drink more/less than you? Or abstain from alcohol use?

What do you think your social experiences would have been like if you drank less/more/no at all?

Can you think of any times where you have altered your approach to alcohol to achieve a feeling of belonging or popularity within the team?

At the end...is there anything else you would like to discuss? To do with alcohol, social factors etc.?

Appendix 12. Study 2 - Final Interview Guide

Social groups/subcultures

Tell me a little bit about yourself and your time at university...

Describe how you like to spend your social time?

What social activities do you do/who with/where?

What social groups are you involved in?

Tell me a little bit about your sport and your team...

Social belonging

How much do you feel part of the team as a social group?

How much do you feel you belong or fit in with the team? Feeling comfortable/ similar to your teammates?

Is the team & feeling as if you belonging within the team important to you?

How do you know you belong or don't belong in the team?

Would you say some members of the team are more popular than others? If so, how did you become aware of this?

How did you become part of the team? How long did it take?

What behaviours did you engage in to become part of the team?

How do you maintain your involvement in the team?

Role of alcohol

Describe the relationship, if there is one, between your team sport & alcohol?

What role, if any, does alcohol play in team social events & gaining acceptance as a member of the team?

What influence has alcohol/drinking had on your social experiences with the team?

What positive/negative social experiences have you had with the team due to alcohol?

What do you think/feel towards/treat of other members of the team who drink more/less than you? Or abstain?

What do you think your social experiences would have been like if you drank less/more/not at all?

Can you think of any times where you have altered your approach to alcohol to achieve a feeling of belonging or popularity within the team?

How much does the amount you drink influence your level of social belonging/popularity?

What other factors influence your level of belonging or popularity within the team?

At the end...is there anything else you would like to discuss? To do with alcohol, social factors etc.?

Appendix 13. Study 2 - Recruitment Email

Dear student,

I am currently looking for participants to complete one to one interviews which will explore student drinking and social behaviour within university sport contexts.

I have contacted you because you are a student athlete who participates in a team sport, studying on an undergraduate or postgraduate (taught) course at Northumbria University and are aged 18 years or above. You also took part in my previous research study, completing an online survey between March and May last year.

The interview will take a maximum of approximately an hour to complete and will take place at a location convenient to you on Northumbria University premises, within normal lecturing hours 9am-5pm. The interview will be tape recorded and you will be asked to provide some basic demographic information and some information on your alcohol consumption followed by questions about your social experiences at university and the role of alcohol in these social experiences.

There are no right or wrong answers I am simply interested in your experiences. Please note that any information you provide will be confidential and your identity will not be associated with your data in any way.

This project has received all necessary safety and ethical approval from the Department of Sport, Exercise and Rehabilitation at Northumbria University.

Next Steps...

If you are interested in taking part, and would like to know more, or wish to arrange an interview, please reply to this email and we can make some time to talk or schedule an interview.

If you require any further information or have any questions please contact me via email joanne5.smith@northumbria.ac.uk

Many Thanks,
Joanne

Joanne Smith (MSc, PGcert)

PhD Student

Department of Sport, Exercise & Rehabilitation
Faculty of Health & Life Sciences
Northumberland Building, Room NB431
Northumbria University

Appendix 14. Study 2 - Participant Information Sheet

Participant Information Sheet

Study Title: *Exploring the role of alcohol in the social world of student-athletes who compete in team sport.*

Investigator: *Joanne Smith, PhD Researcher*

You are being invited to take part in this research study. Before you decide it is important for you to read this information so you understand why the study is being carried out and what it will involve. Reading this information, discussing it with others or asking questions will help you decide whether or not you would like to take part.

What is the Purpose of the Study?

Studying at university has been identified as a time of great change, when students often move away from home, become more independent and explore new social environments. Alcohol is often present in these new social environments, especially in sport and previous research has identified that students drink alcohol for many reasons, including social reasons. Thus, the purpose of this study is to explore and understand more about the social experiences of student-athletes and the role alcohol plays in these experiences.

Why have I been invited?

It is important that we recruit as many people as possible and you have indicated that you are interested in taking part in this study, and that you are a Northumbria University student, on an undergraduate or postgraduate course, aged over 18 years and you participate in a team sport.

Do I have to take part?

No, it is up to you whether you take part or not. This information is provided to help you make that decision. If you do decide to take part, remember that you can withdraw from this study at any time, without providing a reason.

What will happen if I take part?

After reading this information, you will be asked to provide informed consent confirming that you wish to take part. If you agree to take part, you will then be asked to provide some demographic information (i.e. age, gender etc.) and review or complete a short questionnaire about your current alcohol consumption prior to a one to one interview with the researcher. The interview will take place on university premises, between the hours of 9-5pm and will be tape recorded for later transcription. During the interview you will be asked about your social experiences at university, in particular in your sport, and the role of alcohol in these social experiences. Social themes associated with alcohol consumption (i.e. making friends) and attitudes towards other people's drinking behaviour will be discussed. The interview will take a maximum of one hour to complete. Please be honest when answering the questions and while there are no questions which are intended to cause discomfort or embarrassment, should you wish to omit some answers (for whatever reason) then that is fine. All information will be kept confidential. At the end of the interview, debrief information will be provided explaining the nature of the research, how you can find out about the general results and how you can withdraw if you wish.

What are the possible disadvantages of taking part?

No physical discomfort is anticipated for participants, although please note that the interview takes approximately an hour to complete. If you suffer from any conditions which make sitting for an hour difficult or uncomfortable please inform the researcher and you will be offered a short break. It is not envisaged that you will experience any emotional discomfort or embarrassment during the interview. However, some questions may be perceived by some people to be of a sensitive nature. Please note that you can withdraw from the project at any time or refuse to answer any questions you are not comfortable answering. All of your responses are kept confidential. You will be provided with the contact details of support

agencies/services in case participating in this project raises any concerns you might have about your health. All procedures in this research project have been risk assessed.

What are the possible benefits of taking part?

By taking part in this study you will be participating in research which will hopefully provide a greater understanding of the complex social interactions associated with alcohol consumption. This information may be useful when designing student support campaigns to reduce alcohol use or to stay safe whilst drinking. Taking part in this interview may also provide the space to reflect on your social experiences at university and your overall health and wellbeing.

Will my taking part in this study be kept confidential and anonymous?

Yes, a number of procedures to protect the confidentiality of participants have been put in place. You will be allocated a participant number that will be used to identify any data that you provide. Only the researcher and supervisors will have access to your data. Paper records will be stored in a locked cabinet and electronic information will be stored on a password protected computer. Your name, email address or other personal details will not be associated with your data, for example the consent form that you sign will be kept separate from your data. All information you provide will be treated in accordance with the Data Protection Act 1998.

How will my data be stored?

Each interview will be recorded with a Dictaphone. Audio recordings will be transferred from the recording device in a timely manner after each interview and then deleted from the original portable device. Audio recordings and verbatim transcripts produced will be stored securely on the researcher's password protected Northumbria IT account. Completed consent forms will be stored securely in a locked cabinet in a shared postgraduate research office (restricted access/entry using university ID card). Only the researcher and supervisory team will have access to the data collected.

What will happen to the results of the study?

Any information gathered during this study will only be available to the research team. The data collected will be used for a PhD thesis. It may also be published in scientific journals or presented at conferences. Should the research be presented or published in any form, then the information will be generalised and your personal data will not be identifiable.

Who is Organizing and Funding the Study?

Joanne Smith, a PhD Researcher at Northumbria University is organising and conducting this study, as part of her PhD research programme. This study is not funded by any external partners.

Who has reviewed this study?

This study and its protocol have received full ethical approval from the Department of Sport, Exercise and Rehabilitation in accordance with Northumbria University's ethics and governance regulations.

If you require any further information please contact: Joanne Smith (Researcher), via email: joanne5.smith@northumbria.ac.uk or Dr Sarah Partington (Supervisor), via email: sarah.partington@northumbria.ac.uk

Alternatively, please contact Mick Wilkinson (Department Ethics Co-ordinator) via email mic.wilkinson@northumbria.ac.uk if you would like independent information or advice about the project.

Appendix 15. Study 2 - Informed consent form



Faculty of Health & Life Sciences

INFORMED CONSENT FORM

Project Title: Exploring the role of alcohol in the social world of student-athletes who compete in team sport.

Principal Investigator: Joanne Smith, PhD Researcher

*please tick or initial
where applicable*

I have carefully read and understood the Participant Information.	<input type="checkbox"/>
I have had an opportunity to ask questions and discuss this study and I have received satisfactory answers.	<input type="checkbox"/>
I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing, and without prejudice.	<input type="checkbox"/>
I agree to take part in this study.	<input type="checkbox"/>

Signature of participant..... Date.....	
(NAME IN BLOCK LETTERS).....	
Signature of researcher..... Date.....	
(NAME IN BLOCK LETTERS).....	

Appendix 16. Study 2 - Informed Consent form for Audio Recording



INFORMED CONSENT FORM - FOR USE WHEN VOICE RECORDINGS WILL BE TAKEN

Project title: *Exploring the role of alcohol in the social world of student-athletes who compete in team sport.*

Principal Investigator: *Joanne Smith, PhD Researcher*

I hereby confirm that I give consent for the following recordings to be made:

Recording	Purpose	Consent
Voice recordings	<ul style="list-style-type: none">• To create a detailed, accurate record of the interview.• To allow qualitative analysis of data collected at the interview.	

Clause A: I understand that other individuals may be exposed to the recording(s) and be asked to provide ratings/judgments. The outcome of such ratings/judgments will not be conveyed to me. My name or other personal information will never be associated with the recording(s).

Tick or initial the box to indicate your consent to Clause A ☐

Clause B: I understand that the recording(s) may also be used for teaching/research purposes and may be presented to students/researchers in an educational/research context. My name or other personal information will never be associated with the recording(s).

Tick or initial the box to indicate your consent to Clause B ☐

Clause C: I understand that the recording(s) may be published in an appropriate journal/textbook or on an appropriate Northumbria University webpage. My name or other personal information will never be associated with the recording(s). I understand that I have the right to withdraw consent at any time prior to publication, but that once the recording(s) are in the public domain there may be no opportunity for the effective withdrawal of consent.

Tick or initial the box to indicate your consent to Clause C ☐

Signature of participant..... Date.....

Signature of researcher..... Date.....

PARTICIPANT DEBRIEF

Name of Researcher: *Joanne Smith, PhD Researcher,*

Name of Supervisor: *Dr Sarah Partington,*

Project Title: *Exploring the role of alcohol in the social world of student-athletes who compete in team sport*

What was the purpose of the project?

Alcohol consumption in the UK is a major social and public health issue. UK students have been shown to drink more than their non-student peers as well as students in the US and team sport participants have been found to drink more than other students. Therefore, this study aimed to understand more about the alcohol consumption of UK students and in particular students who are team sport athletes. To achieve a broad understanding the researcher wanted to interview students who consumed different amounts of alcohol, as well as students who abstain from alcohol use and discuss each person's decision-making regarding alcohol and their drinking behaviour.

Previous research has also identified that students' drink alcohol for social reasons and that alcohol consumption is related to students' levels of social belonging and need to be considered popular. Therefore, this study aimed to gather more detailed information directly from students on these particular relationships. In particular, the researcher wanted to discuss with students their awareness of these relationships during their social interactions at university and the influence of these relationships when making decisions about their alcohol consumption. The researcher anticipated that student-athletes would report that the amount of alcohol they consume has an impact on their social life. The findings of this study will add to existing research on student drinking, more specifically, sport and drinking, and may inform future alcohol interventions targeted at students. The findings may also help university staff and support services to understand the social experiences of student-athletes who do not drink and student-athletes who binge drink or drink to excess.

How will I find out about the results?

If you would like a general summary of the result please contact the researcher, via the email at joanne5.smith@northumbria.ac.uk approximately 12weeks after taking part.

Have I been deceived in any way during the project?

No, whilst taking part in this research you have not been deceived in any way.

If I change my mind and wish to withdraw the information I have provided, how do I do this?

If, for any reason, you wish to withdraw your data please contact the researcher within one month of your participation. After this date, it may not be possible to withdraw your individual data as the results may have already been collated and published. As all data are anonymised, your individual data will not be identifiable in any way.

Finally, if you wish to access further support on the topics covered during the interview please contact:

- Northumbria University Student Support and Wellbeing Services, ground floor of Northumberland Building, City Campus, Tel: 0191 227 4200,
- Your GP surgery and make an appointment to speak with a doctor or nurse,

- Drinkline, a national alcohol helpline, if you're worried about your own or someone else's drinking you can call this free helpline, Tel: 0300 123 1110 (weekdays 9am-8pm, weekends 11am-4pm)

The data collected in this study may also be published in scientific journals or presented at conferences. Information and data gathered during this research study will only be available to the research team identified in the information sheet. Should the research be presented or published in any form, all data will be anonymous (i.e. your personal information or data will not be identifiable).

All information and data gathered during this research will be stored in line with the Data Protection Act and will be destroyed six months following submission of the researcher's PhD thesis. If the research is published in a scientific journal it may be kept for longer before being destroyed. During that time the data may be used by members of the research team only for purposes appropriate to the research question, but at no point will your personal information or data be revealed. Insurance companies and employers will not be given any individual's personal information, nor any data provided by them, and nor will we allow access to the police, security services, social services, relatives or lawyers, unless forced to do so by the courts.

This study and its protocol have received full ethical approval from Faculty of Health and Life Sciences Research Ethics Committee. If you require confirmation of this, or if you have any concerns or worries concerning this research, or if you wish to register a complaint, please contact the Chair of this Committee (Dr Nick Neave: nick.neave@northumbria.ac.uk), stating the title of the research project and the name of the researcher (see above).

Appendix 18. Study 2 - Bracketing exercise and journal

Bracketing Exercise

My history and experience of team sport and alcohol

I am 28, a female hockey player, I also run. Since primary school I have been involved in sport, initially in netball, and then I found hockey in early years of high school and I have never looked back.

Since graduating from university, I have become a community hockey player, representing my local town in a competitive league. I have participated in training and competitive matches for seven years and I am currently in my eighth season with the same club. I have experienced personal highs and lows, from winning the league in 2013/14 season to breaking my nose, requiring surgery. I have seen players come and go, but also made firm friends. I believe there is a strong bond between the girls from teams past and present. However, one thing I am aware of is that location and proximity, as well as frequency of contact are some of the many things that keep us together as a unit. I will often see the hockey girls more than my other friends during the season.

Alcohol is a significant part of being a team athlete and I feel it cannot be escaped. For example, especially since now most of our post-match food is served in pubs and there is a tendency for meetings and hockey discussion between the club members often take place in the pub. There are regular social events, Halloween and Christmas parties and our notorious end of season Annual General Meetings. The ladies team often refer to “trying to get it right” with a balance of different social activities, as we have quite a few junior members. Unfortunately, juniors often have to leave early at such events where alcohol is present or they don’t get invited at all.

In more recent years, we have had more adult members join our club and amongst the girls there had often been calls for a night out or get together, as it’s difficult to get to know one another when at training and on match days as we are increasingly focused on our performance. However, I can count on one hand the number of times we have been for a meal, with just one glass of wine or soft drinks and only once where a few of the girls went to the cinema together. We progressed this year to attending one of the teams wedding, at which we were well behaved, although there was still noisy dancing, selfies, shots and sneaking of a bottle of wine into the venue.

University was the first time where alcohol and sport became so intertwined. As a fresher, I was initiated into my dormitory’s hockey team. We had to dress up as cops and robbers, I was a cop handcuffed to my friend who was a robber. Interestingly, my friend was a new recruit to the sport of hockey and I had encouraged her to take part as we were (and still are to this day) firm friends. We each had a list of tasks to do throughout the night (sing a song, do specific actions, steal a trophy) and a different type of alcoholic drink had to be consumed in every pub/bar. There were pre-drinks before we left halls. The second and third years would shout out the rules or what drink to buy etc. I don’t remember being forced to do anything I didn’t want to do by older members of the team and we didn’t engage in risky behaviours such as jumping off a nearby bridge into the river (the rugby initiation task the same year!). In my subsequent second and third years at university, I attend two more initiation ceremonies as an older member of the

team, I took part in the majority of the what the first years were doing, as did most of the older girls. Although there was a clear distinction made between freshers and seniors, as the freshers were dressed as farm animals and we were dressed as farmers. I guess I was lucky throughout my time at university, the worst experience I had was being sick and bad hangovers as a result of binge drinking.

We regularly dressed up for nights out as the cast of Peter Pan/pirates, fairies and members of the nativity story at Christmas. In my third year, almost like a last hoorah, we went to Dublin on what was officially a sport tour, where teams from my university would use Dublin's sports facilities to play teams in your chosen sport from two other universities. Football, hockey, rugby and other sports were represented. The sports tour lasted four or five days, with a different dressing up theme for each night out. We travelled via coach to Wales then boarded the ferry to Ireland, everyone started drinking on the coach. I was unable to drink as I am travel sick, I recall sitting wearing travel bands and eating wine gums as my team mates were drinking. I did feel occasionally that I was missing out, however there was nothing else to do on a six-hour coach journey. Others around me were funnelling beer and cider, and writing on one another. One lad from our college got so drunk he passed out on the coach floor and when we could not wake him an ambulance was called. I knew I needed to wait until either I arrived in Dublin or until the latter parts of the ferry journey to have a drink otherwise I'd risk embarrassing myself by being sick. I don't remember being explicitly pressured to drink but I'm sure others asked me if I wanted a drink each time they opened something new or went to the bar.

Hockey nights out were some of the best nights out I had at university and now with my community team mates are some of the best nights out I have had out in my home city. However, they are without a doubt the nights where I drank the most. I don't think I ever missed a hockey night out at university. This pattern continued after I moved home after university and joined my local hockey team. My mum would roll her eyes when I would say it was a hockey night out tomorrow, next week etc. More recently, when my brother went away to university I actively encouraged him to follow the same path in order to make as many friends as possible, i.e. join a sports team or organisation and to drink alcohol with his peers.

Reflecting on my experiences, I am not good friends with any of the university hockey girls now, yes I have them on Facebook and a couple of them I still bump into on the hockey pitches of Newcastle. I can't help but wonder why this might be...one reason may be geography, we are all spread out across the country, and the hockey team transcended year groups, which meant we left uni at different times. Two of my best friends at university, with whom I am very good friends with still, seeing them at least once per year, were "members" of my hockey team so they could come to Dublin with us, but more than anything this was because they wanted the social experience and ultimately to attend the nights out/the adventure. I don't think either of them would say they wanted to go to Dublin for the drink, it was more to "be there, be seen being there", sharing the experience as "all" their friends were going.

Key differences between me & my likely participants – I did not compete at BUCS or university level, perhaps my university sport and alcohol experiences are less extreme or significant to my identity. In my later years at university it was just as much fun to go out with my course or house mates as the hockey girls. I wore the "stash" or kit around our small campus, but hockey was part of me but not the only part of my identity. I also didn't experience any role conflict between

being a student and the demands of my sport, our training regime was very poor, training once per week and Saturday matches once a fortnight.

More recent reflections on my years involved in team sport and surrounded by alcohol – until I started my PhD I would have seen nothing wrong with my experiences and behaviour, just viewing it as harmless fun. However, now I can see that I was binge drinking and not giving my behaviour a second thought. Back then I think I was of the belief that not drinking would mean you wouldn't have such a good time. One of my housemates who was our goalkeeper didn't drink very much when she started university, however there were nights we'd talk about for weeks where she had gotten drunk and fallen over dressed as a fairy or been drinking port with one of the lads in our corridor. It was out of character for her that's why it was such a story, I don't think we ever said she had to drink or suggested she should, we simply encouraged her to attend nights out and tried to make her feel part of things.

In the last 18 months to two years I have started to reduce the amount I drink and how often. There is still the odd night out where I get very drunk, but more recently I am very aware of my age and that binge drinking doesn't seem so acceptable. I also cannot be bothered with the cost, effort of getting ready and the dramatic events that tend to happen when everyone's had a drink. Additionally, I have become aware of my parents' approach to alcohol and that in my childhood home alcohol was present but it wasn't something that was drunk at home – until I was legally able to drink, I don't think I had been aware of my mum having a glass of wine or beer say. I have never seen either of my parents drunk. Since moving into my own home with my boyfriend, again we have alcohol in the house but very rarely would we sit and drink until drunk, occasional glass of wine if he was making a special meal perhaps and a beer if my brother was coming over etc.

What are my biases, assumptions, theories, previous experience, beliefs?

Findings from study 1 form some of my assumptions heading into these interviews.

Assumptions those who aren't drinking don't have such a good time at university or have less friends, they are on the edge of the group

Biases – I am older now and I have been out of the university sport environment for a long time, so I feel more inclined to judge those athletes and say hey why are you drinking, it isn't going to help on the pitch. However, I acknowledge that I do not want to be too judgemental, authoritarian or appear as if I am squashing their fun, as I once was drinking a lot and playing team sport, and I think it's only with maturity, genuine fitness and performance concerns in recent years that I have come to think about the question above. I don't think during my time at university I had an approach to alcohol or even thought about it much, it was just something everybody did. I didn't decide how much, what my limits were or what my favourite drinks were. Overall, I think I would tend to favour students from my own sport (greater level of understanding) and who drink at similar levels to me whilst at uni (hazardous/harmful).

Emotional reactions – I think I would empathise with those team athletes who don't drink and who perhaps don't feel as if they belong or have as many friends. However, I would also want to find out why they don't drink. Obviously, I am aware there doesn't have to be a reason. Given my past job role, I'd probably want to find a solution if the student found alcohol and drinking to be a problem in their daily life.

As I have never experienced both not drinking alcohol and others reactions to this, I feel I would be dismissive of how much not drinking would exclude you from many team and university situations.

What is my interest in this topic? What are my goals for this research?

I am completing these interviews as part of my PhD.

This stage of my PhD is the most interesting finding out from athletes about their experiences, what is it like for them, really depth to this issue on the ground, finding out from students themselves.

Tendency to view PhD work as the next hoop to jump through,

I know my own experience, what do others experience, who play different sports or drink differing amounts.

Appendix 19. Study 2 - Exert of initial list of codes

Name	Memo Link	Sources	References	Created On	Created By	Modified On	Modified By
adaptation of drinking challenges for non-drinkers		2	2	07/06/2016 10:58	JS	16/06/2016 11:45	JS
additional time together		2	2	13/06/2016 16:05	JS	11/08/2016 13:54	JS
adherence to drinking task changed opinion of person		1	1	10/08/2016 09:21	JS	11/08/2016 13:51	JS
adjust social expectations		1	1	28/07/2016 15:19	JS	11/08/2016 13:51	JS
after attending a night out banter the next day		1	1	10/08/2016 09:12	JS	11/08/2016 13:51	JS
after night out you become best friends		1	1	28/07/2016 14:33	JS	11/08/2016 13:51	JS
aim is heavy drinking		1	2	07/06/2016 14:04	JS	16/06/2016 11:45	JS
alcohol brings us together		1	1	28/07/2016 15:10	JS	11/08/2016 13:51	JS
alcohol build bonds when you fall out on the pitch		1	1	17/06/2016 16:00	JS	11/08/2016 13:51	JS
alcohol stories		8	9	02/06/2016 11:07	JS	28/07/2016 13:51	JS
altered approach to drinking to gain social acceptance		1	1	16/06/2016 09:46	JS	11/08/2016 13:51	JS
always have a drink in your hand		2	2	06/06/2016 14:20	JS	16/06/2016 11:45	JS
annoyance of refusing drinking		1	2	07/06/2016 10:35	JS	16/06/2016 11:45	JS

tresner				12:15		13:51	
being a radgie drunk = less popular	1	1		16/06/2016 11:48	JS	11/08/2016 13:51	JS
being a scholar athlete is a valid excuse	1	1		28/07/2016 15:22	JS	11/08/2016 13:51	JS
being seen to try drinking tasks	2	3		02/06/2016 14:23	JS	16/06/2016 11:45	JS
being too drunk = lower popularity	2	3		16/06/2016 11:48	JS	11/08/2016 13:51	JS
best of both world go out with lower teams but in a higher team	1	1		27/07/2016 14:59	JS	11/08/2016 13:51	JS
blown me off	1	1		14/06/2016 10:45	JS	11/08/2016 13:51	JS
bonding whilst drinking	4	7		06/06/2016 14:49	JS	10/08/2016 09:33	JS
bothered me I was no further forward with fitting in	1	1		13/06/2016 15:37	JS	11/08/2016 13:51	JS
breaks the ice	1	1		28/07/2016 13:51	JS	11/08/2016 13:51	JS
bullied to drink	2	2		07/06/2016 14:43	JS	16/06/2016 11:45	JS
burden of looking after others	1	1		17/06/2016 16:10	JS	11/08/2016 13:51	JS
calories	1	1		09/06/2016 11:02	JS	16/06/2016 11:45	JS
can't offer input into conversation	1	2		13/06/2016 15:27	JS	11/08/2016 13:51	JS
care less as the season goes on about enforced drinking	1	1		10/08/2016 11:51	JS	11/08/2016 13:51	JS

Appendix 20. Study 2 - Refining codes

Thematic Nodes

Name	Sources	References	Created On	Created By
How non-drinkers feel		7	25 18/08/2016 12:04	JS
blown me off		1	1 14/06/2016 10:45	JS
bullied to drink		2	2 07/06/2016 14:43	JS
don't go out stop asking		1	1 13/06/2016 14:20	JS
drinkers don't realise the benefits they are getting		1	1 13/06/2016 16:04	JS
drinking challenges ruined my night		1	1 13/06/2016 13:48	JS
exclusion		2	3 06/06/2016 13:40	JS
feeling down re.not belonging		1	2 14/06/2016 10:32	JS
felt forced		2	3 07/06/2016 14:13	JS
gave up on me		1	3 14/06/2016 10:43	JS
lack of enjoyment		1	3 07/06/2016 14:03	JS
pressure		2	2 13/06/2016 13:40	JS
scared of others who drink a lot		1	1 14/06/2016 13:44	JS
they dont miss me		1	1 13/06/2016 13:42	JS
uncomfortable in heavy drinking culture		1	1 07/06/2016 14:17	JS
If non-drinker could just do this instead...		5	11 18/08/2016 13:22	JS
as long as non drinkers have alright personality		1	1 28/07/2016 15:34	JS
As long as you make the effort as a non-drinker		2	4 07/06/2016 11:28	JS
As long as your there & having fun, it doesn't matter how much you drink		1	1 13/06/2016 14:29	JS
good banter, being friendly can make up for low drinking		1	1 06/06/2016 15:19	JS
not bothered by non drinkers as long as they take part		1	2 17/06/2016 16:04	JS
rather non-drinkers come out		2	2 17/06/2016 16:06	JS
Non-drinkers & Low Drinkers strategies to deal with heavy drinking culture		11	28 18/08/2016 11:23	JS
drop outs		2	2 02/06/2016 14:12	JS
escaping drinking environment		3	5 06/06/2016 14:09	JS
excuses		7	10 06/06/2016 14:00	JS
ignore & avoid		3	6 07/06/2016 14:41	JS
keeping quiet about low or non-drinking		2	2 02/06/2016 13:41	JS
made effort at other times		1	2 13/06/2016 16:04	JS
water bottle strategy		1	1 14/06/2016 12:09	JS
Student-athlete Drinking Culture		15	48 18/08/2016 11:06	JS
Being a fresher		5	5 23/08/2016 10:58	JS
best of both world go out with lower teams but in a higher team		1	1 27/07/2016 14:59	JS
Different teams different drinking patterns		3	3 23/08/2016 10:56	JS
doesn't have the same impact when team is not there		1	1 28/07/2016 14:01	JS
drinking bans		4	5 11/08/2016 12:06	JS
drinking to excess is the aim of the game on some socials		3	4 10/08/2016 09:54	JS
External Input		2	5 23/08/2016 10:54	JS
Impact & Consequences		4	5 01/09/2016 11:57	JS
make the most of your uni experience		1	1 16/06/2016 11:00	JS
my team love alcohol		1	1 10/08/2016 09:22	JS
no difference to team experience as culture not as strong		1	1 28/07/2016 13:50	JS
Reflections		2	3 01/09/2016 11:54	JS
Sport Parents		4	4 23/08/2016 10:57	JS
The culture		2	2 23/08/2016 10:59	JS
we can have it all fun, alcohol & sport seriously		1	1 16/06/2016 11:00	JS
Wednesdays		4	6 01/09/2016 11:55	JS

Appendix 21. Conference Presentations & Articles

December 2015 - Poster presentation at British Psychological Society Division of Sport and Exercise Psychology in Leeds (£250 Grad School conference bursary) entitled 'Exploring the role of social factors in student-athlete drinking behaviour'.

July 2016 – Oral presentation at University of Bath at the PhD Symposium for the Society for the Study of Addiction (Funding awarded from the SSA) entitled 'Exploring the role of positive social factors in student and student-athlete drinking behaviour'

November 2016 – Poster Presentation at the Annual Symposium of the Society for the Study of Addiction in York, runner up in the student led category (self-funded) entitled 'Exploring the role of social belonging and popularity in UK student drinking behaviour'.

December 2016 – Oral presentation at BPS DSEP in Cardiff (£250 Grad School Conference Bursary) entitled 'The impact of drinking behaviour on student-athlete mental health and wellbeing'.

Appendix 22. Study 3 - Questionnaire Booklet

Instructions

- When completing the following questions please use the list of team members provided.
- Please read each question carefully;
 - Only make **three nominations for each question** and **use the unique codes** corresponding to the team members you wish to nominate. The order in which you write the three codes for each question does not matter.
- Please **do not use team member's names** or **nominate yourself** when answering the questions.
- Please complete the questions on your own and do not confer or disturb your teammates.
- It is not expected that you will discuss any of your answers with your teammates during or after taking part and your responses will be kept confidential.
- Please be honest when answering the questions and while there are no questions which are intended to cause discomfort or embarrassment, should you wish to omit some answers (for whatever reason) then that is fine.

Question 1

From the list provided, please write the code numbers of the three members of your team who you **like the most**

1. _____
2. _____
3. _____

From the list provided, please write the code numbers of the three members of your team who you **like the least**

1. _____
2. _____
3. _____

Question 2

From the list provided, please write the code numbers of the three members of your team who you **think are the most popular on the team**

1. _____
2. _____
3. _____

From the list provided, please write the code numbers of the three members of your team who you **think are the least popular on the team**

1. _____
2. _____
3. _____

Question 3

From the list provided, please write the code numbers of the three members of your team who you **most like socialising and spending time with**

1. _____
2. _____
3. _____

From the list provided, please write the code numbers of the three members of your team who you **least like socialising and spending time with**

1. _____
2. _____
3. _____

Question 4

From the list provided, please write the code numbers of the three members of your team **with whom you have the strongest bond**

1. _____
2. _____
3. _____

From the list provided, please write the code numbers of the three members of your team **with whom you have found it difficult to bond with**

1. _____
2. _____
3. _____

Question 5

From the list provided, please write the code numbers of the three members of your team who you **like drinking with on a night out**

1. _____
2. _____
3. _____

From the list provided, please write the code numbers of the three members of your team who you **dislike drinking with on a night out**

1. _____
2. _____
3. _____

End of Questions

Please place the consent form, team list and your completed questionnaire booklet into the envelope provided, seal it and hand to the researcher.

Thank you

Appendix 23. Study 3 - Recruitment email

Dear Team captain or senior player,

I am currently looking for sports teams to participate in my research which aims to explore the role of alcohol in the social experiences and group dynamics of team sport athletes. I have contacted you because you are captain/a senior member of the XX team and therefore have access to team sport athletes.

My research involves the team attending a one off data collection session and completing a paper questionnaire. The questionnaire will take approximately 40 minutes to complete and participants will be asked to provide some basic demographic information (e.g. age, gender etc.), followed by questions about their alcohol consumption, and their social experiences with their team mates. We are particularly interested in group dynamics e.g. the formation of friendship groups – how team mates connect or disconnect, who team members connect best with on their team and who they like spending time with on nights out.

Please note that any information participants in this study provide will be confidential and their identity will not be associated with their data in any way. This project has received all necessary safety and ethical approval from the Department of Sport, Exercise and Rehabilitation at Northumbria University.

If you would be willing to advertise this study to your team on my behalf or to enable me to contact team members directly to invite them to participate, please reply to this email. In terms of collecting the data for the study, I am happy to fit around your team's athletic schedule and perhaps arrange this for before or after training, strength & conditioning or a classroom-based coaching/psychology session – whatever would work best for the team.

If you require any further information please contact me, via email joanne5.smith@northumbria.ac.uk

Many Thanks,
Joanne

Joanne Smith (MSc, PGcert)

PhD Student

Department of Sport, Exercise & Rehabilitation

Faculty of Health & Life Sciences

Northumberland Building, Room NB431

Northumbria University

Participant Information Sheet

Study Title: *Alcohol consumption of student-athletes: associations with perceived and actual popularity in team sport.*

Investigator: *Joanne Smith, PhD Researcher*

You are being invited to take part in this research study. Before you decide it is important for you to read this information so you understand why the study is being carried out and what it will involve. Reading this information, discussing it with others or asking questions will help you decide whether or not you would like to take part.

What is the Purpose of the Study?

Studying at university has been identified as a time of great change, when students often move away from home, become more independent and explore new social environments. Alcohol is often present in these new social environments, especially in sport. Previous research has identified that students drink alcohol for many reasons, including social reasons. The purpose of this study is to explore and understand more about the social experiences of student-athletes and the role alcohol plays in these experiences. In particular, the research is interested in social relationships and group dynamics in different drinking environments.

Why have I been invited?

It is important that we recruit as many people as possible and you have indicated that you are interested in taking part in this study, and that you are a Northumbria University student, on an undergraduate or postgraduate course, aged over 18 years and you participate in a team sport.

Do I have to take part?

No, it is up to you whether you take part or not. This information is provided to help you make that decision. If you do decide to take part, remember that you can withdraw from this study at any time, without providing a reason.

What will I have to do?

After reading this information, you will be asked to provide informed consent confirming that you wish to take part. If you agree to take part, you will then be asked to provide some demographic information (i.e. age, gender etc.) and complete a short questionnaire about your current alcohol consumption. In conjunction with the alcohol consumption questionnaires you will be asked a series of questions relating to how you feel socially in your team. In particular, you will be asked a series of questions exploring your friendship groups within the team e.g. who you connect with best/don't connect with. The questions will require you to indicate on a scale either the frequency of your behaviour or how true each item is for you and you will also be asked to record the unique codes of teammates in the space provided. It is estimated the survey will take a maximum of 40 minutes to complete. Please complete the questions on your own and do not confer or disturb your teammates. It is not expected that you will discuss any of your answers with your teammates and your responses will be kept confidential. Please be honest when answering the questions and while there are no questions which are intended to cause discomfort or embarrassment, should you wish to omit some answers (for whatever reason) then that is fine. After you have completed the questionnaire, debrief information will be provided explaining the nature of the research, how you can find out about the general results and how you can withdraw if you wish.

What are the possible disadvantages of taking part?

No physical discomfort is anticipated for participants, although please note that the survey takes a maximum of 40 minutes to complete. If you suffer from any conditions which make

sitting for 40 minutes difficult you may wish to take this into consideration, alternatively please inform the researcher and you will be offered a short break. It is not envisaged that you will experience any emotional discomfort or embarrassment when completing the questionnaire. However, some questions may be perceived by some people to be of a sensitive nature. Please note that you can withdraw from the project at any time or refuse to answer any questions you are not comfortable answering. All of your responses are kept confidential. You will be provided with the contact details of support agencies/services in case participating in this project raises any concerns you might have about your health. All procedures in this research project have been risk assessed.

What are the possible benefits of taking part?

By taking part in this study you will be participating in research which will hopefully provide a greater understanding of the complex role of alcohol consumption in students' social interactions. This information may be useful when supporting students to integrate socially at university in safe and healthy ways. Taking part in this research may also provide the space for you to reflect on your social experiences at university and your overall health and wellbeing.

Will my taking part in this study be kept confidential and anonymous?

Yes, a number of procedures to protect the confidentiality of participants have been put in place. You will be allocated a participant number that will be used to identify any data that you provide. Only the researcher and supervisors will have access to your data. Paper records will be stored in a locked cabinet and electronic information will be stored on a password protected software and computer. Your name, email address or other personal details will not be associated with your data, for example the consent form that you sign will be kept separate from your data. All information you provide will be treated in accordance with the Data Protection Act 1998.

How will my data be stored?

All information gathered during this research will be stored securely and destroyed in line with the Data Protection Act (1998). During that time the data may be used by members of the research team only for purposes appropriate to the research question, but at no point will your personal information or data be revealed. Insurance companies and employers will not be given any individual's information, samples or test results nor will we allow access to the police, security service, social services, relatives or lawyers, unless forced to do so by the courts.

What will happen to the results of the study?

Any information gathered during this study will only be available to the research team. The data collected will be used for a PhD thesis. It may also be published in scientific journals or presented at conferences. Should the research be presented or published in any form, then the information will be generalised and your personal data will not be identifiable.

Who is Organizing and Funding the Study?

Joanne Smith, a PhD Researcher at Northumbria University is organising and conducting this study, as part of her PhD research programme. This study is not funded by external partners.

Who has reviewed this study?

This study and its protocol have received full ethical approval from the Department of Sport, Exercise and Rehabilitation in accordance with Northumbria University's ethics and governance regulations.

If you require any further information please contact:

Joanne Smith (Researcher), via email: joanne5.smith@northumbria.ac.uk or

Dr Sarah Partington (Supervisor), via email: sarah.partington@northumbria.ac.uk

Alternatively, please contact Mick Wilkinson (Department Ethics Co-ordinator) via email mick.wilkinson@northumbria.ac.uk if you would like independent information or advice about the project.

Appendix 25. Study 3 - Informed consent form



INFORMED CONSENT FORM

Project Title: *Alcohol consumption of student-athletes: Associations with perceived and actual popularity in team sport.*

Principal Investigator: *Joanne Smith, PhD Researcher*

*please tick or initial
where applicable*

I have carefully read and understood the Participant Information. ☐

I have had an opportunity to ask questions and discuss this study and I have received satisfactory answers. ☐

I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing, and without prejudice. ☐

I agree to take part in this study. ☐

Signature of participant..... Date.....

(NAME IN BLOCK LETTERS).....

Signature of researcher..... Date.....

(NAME IN BLOCK LETTERS).....

Appendix 26. Study 3 – An example team roster with pseudonyms

Name	Code Number
Abbie	5333
Clara	5775
Freya	5022
Gemma	5404
Isla	5248
Jess	5944
Joanne	5839
Kathryn	5761
Liz	5495
Louise	5142
Phoebe	5517
Rachel	5457
Sarah	5075
Zara	5254

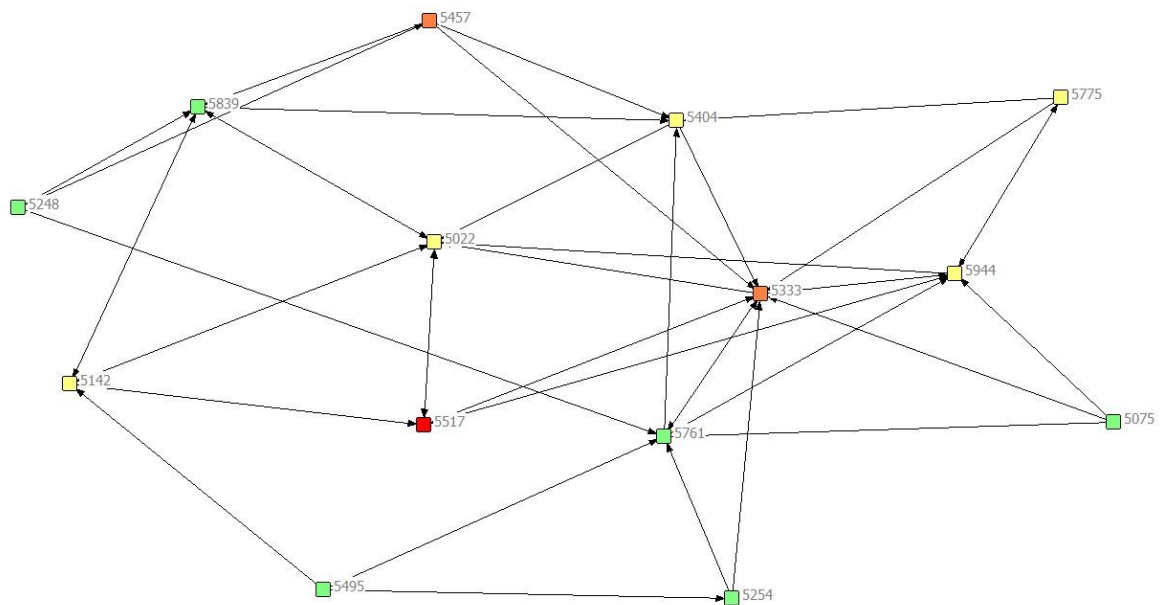
Appendix 27. Binary asymmetric matrices for men's basketball 'like most' & 'like least' questions

Question 1 LikeMost													
ID	3614	3423	3987	3494	3307	3088	3485	3284	3513	3873	3550	3209	3766
3614	0	0	0	0	0	0	0	1	1	0	0	1	0
3423	1	0	1	0	0	0	1	0	0	0	0	0	0
3987	1	0	0	0	0	0	1	0	1	0	0	0	0
3494	0	0	1	0	0	1	1	0	0	0	0	0	0
3307	0	0	1	1	0	0	0	0	0	1	0	0	0
3088	0	0	1	0	0	0	1	0	0	1	0	0	0
3485	1	0	1	0	0	0	0	0	0	1	0	0	0
3284	1	0	0	0	0	0	0	0	0	1	0	1	0
3513	1	0	0	0	0	0	0	0	0	1	1	0	0
3873	0	0	0	0	1	0	1	0	1	0	0	0	0
3550	1	0	0	0	0	0	1	0	1	0	0	0	0
3209	1	0	0	0	0	0	0	1	0	1	0	0	0
3766	0	0	1	0	1	0	0	0	0	1	0	0	0
Total LM	7	0	6	1	2	1	6	2	4	7	1	2	0
Total LL	0	5	0	2	3	2	0	3	2	0	1	0	10

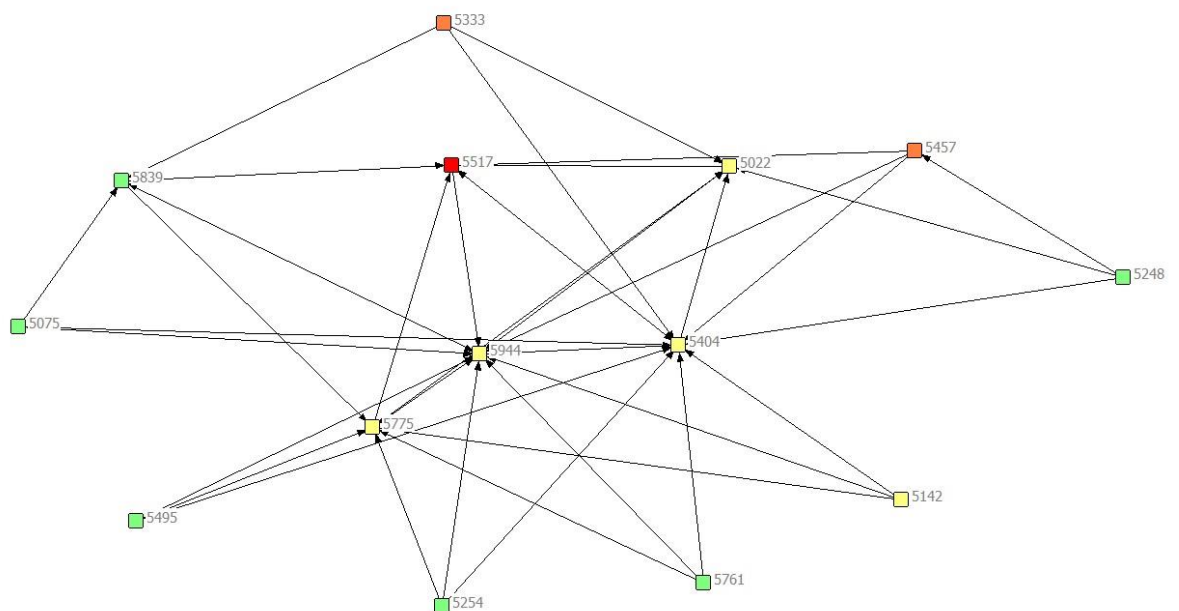
Question 1 Likeleast													
ID	3614	3423	3987	3494	3307	3088	3485	3284	3513	3873	3550	3209	3766
3614	0	0	0	0	0	0	0	0	0	0	0	0	1
3423	0	0	0	0	0	0	0	0	0	0	0	0	1
3987	0	0	0	0	0	0	0	0	0	0	0	0	1
3494	0	0	0	0	0	0	0	1	1	0	0	0	1
3307	0	1	0	0	0	1	0	0	0	0	0	0	1
3088	0	0	0	0	1	0	0	0	1	0	0	0	1
3485	0	0	0	0	0	0	0	0	0	0	0	0	1
3284	0	1	0	1	1	0	0	0	0	0	0	0	0
3513	0	0	0	0	0	0	0	0	0	0	0	0	1
3873	0	1	0	1	0	0	0	0	0	0	1	0	0
3550	0	1	0	0	0	0	0	1	0	0	0	0	1
3209	0	0	0	0	1	0	0	0	0	0	0	0	1
3766	0	1	0	0	0	1	0	1	0	0	0	0	0
Total LL	0	5	0	2	3	2	0	3	2	0	1	0	10

Appendix 28. Study 3 – Sociometric and perceived popularity sociograms for the ladies' volleyball team

Sociometric popularity

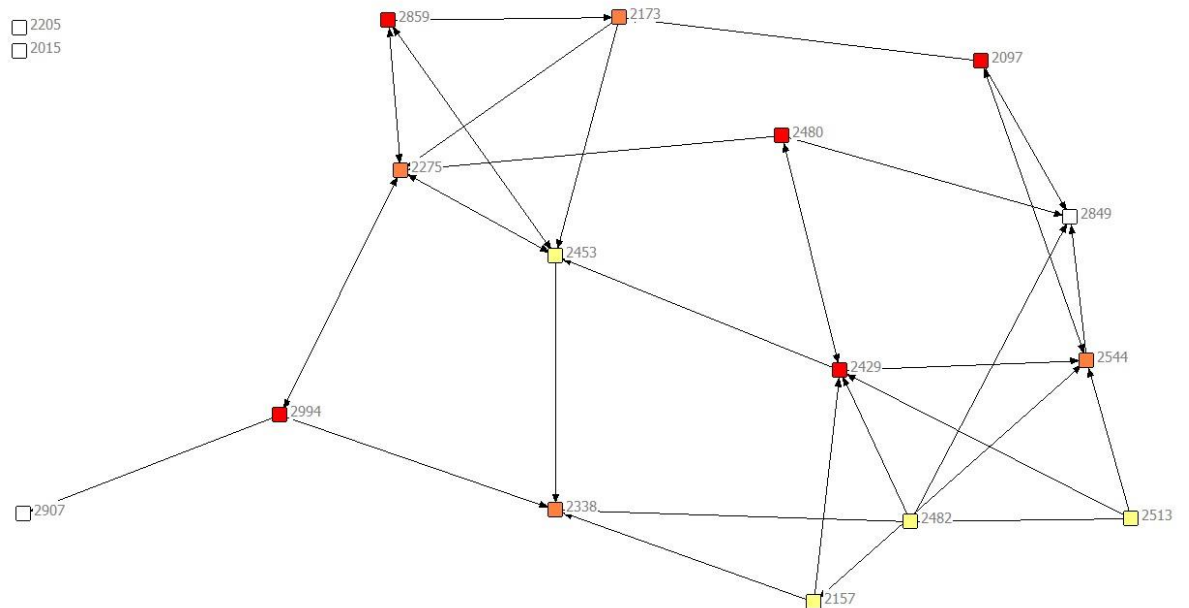


Perceived popularity

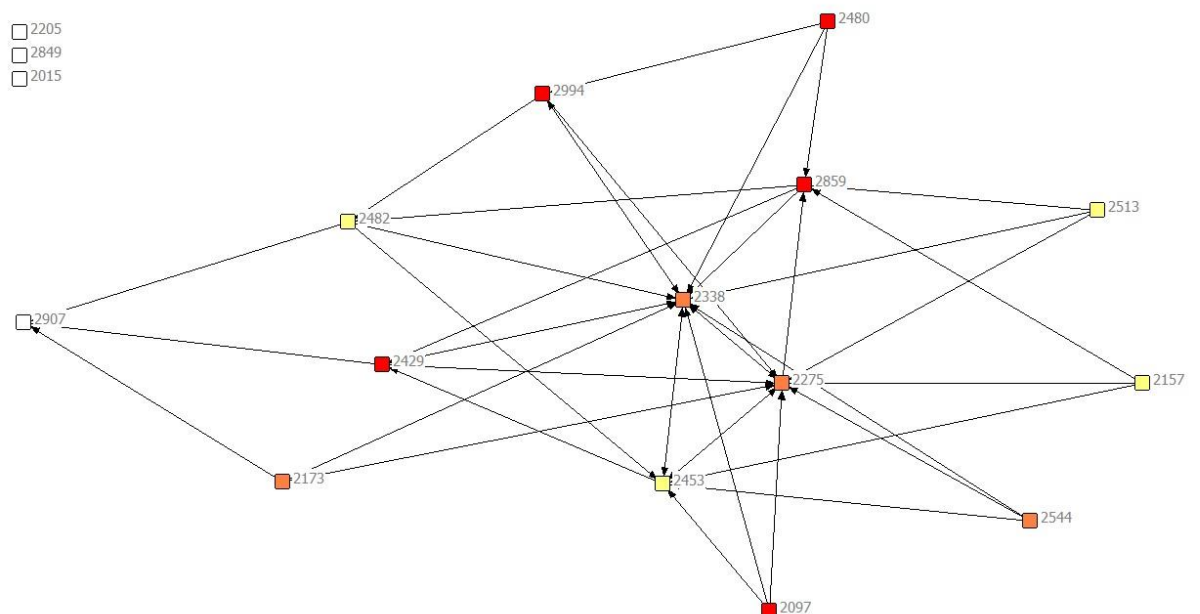


Appendix 29. Study 3 - Sociometric and perceived popularity sociograms for the men's hockey team

Sociometric popularity

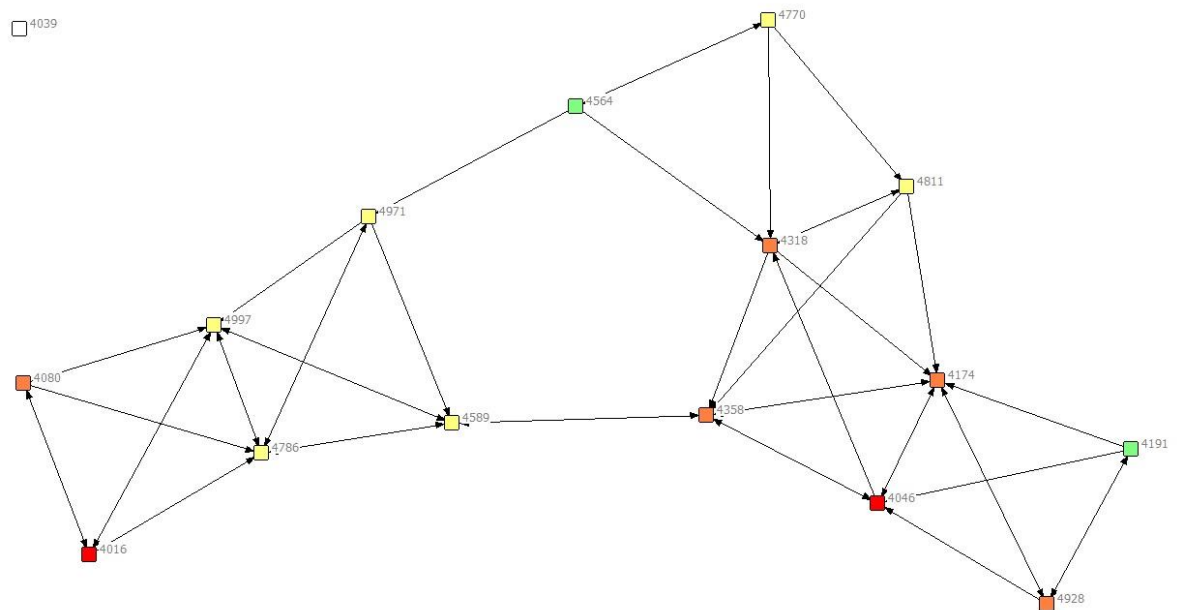


Perceived popularity



Appendix 30. Study 3 – Sociometric and perceived popularity sociograms for the ladies' football team

Sociometric popularity



Perceived popularity

